RADVISION®
Delivering the Visual Experience®

SCOPIA® ENDPOINTS

SCOPIA XT5000 Series

Installation Guide

Version 3.1

For Solution 7.7, 8.0

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1 About the SCOPIA XT Series

The SCOPIA XT Series is a room system endpoint which incorporates state-of-the-art video technology for high definition (HD) conferencing, including support for dual stream HD video, high quality data sharing, high quality full band audio and a high capacity embedded MCU to host videoconferences (selected models).

The SCOPIA XT Series covers a number of different models:

- SCOPIA XT1000 Piccolo

  Experience cost-effective true HD 720p videoconferencing at 30 frames per second (fps) with the SCOPIA XT1000 Piccolo. The wide angle Pan-Tilt-Zoom (PTZ) camera captures the whole conference room, while 5x zoom offers focus on individuals and details.

  The SCOPIA XT1000 Piccolo supports high-resolution PC data sharing at 30fps, enabling presentations and video clips to be shared at high quality.

  The SCOPIA XT1000 Piccolo provides full band audio encoding to ensure clear audio transmission with crisp quality. The 3-way Microphone Pod provides superb signal-to-noise ratios.

- SCOPIA XT4000 Series

  Experience cost-effective true HD 720p videoconferencing at 60 frames per second (fps) with the SCOPIA XT4000 Series. Designed for small meeting rooms, this innovative system combines dual 720p/60fps video, which allows presentations and video clips to be shared in high quality. The wide angle PTZ camera captures the whole conference room.

  To maintain high quality video and audio, the SCOPIA XT4000 Series uses H.264 Scalable Video Coding Technology (SVC). The SCOPIA XT4000 Series ensures high quality audio even during poor network conditions, using its 48 kHz sampling rate (full band) audio encoding capability.

- SCOPIA XT1200

  The SCOPIA XT1200 supports two full HD 1080p video streams as standard, delivered at 30fps. The high quality camera features PTZ with 10x optical zoom for powerful viewing options, and an additional 4x digital zoom. The second video stream can be used with an additional 1080p camera for visual coverage or with a PC for data sharing, at 1080p delivered at 30fps. The 3-way Microphone Pod provides superb signal-to-noise ratios. You can also add a second microphone for unparalleled large room coverage.

- SCOPIA XT Telepresence

Experience the immersive feeling of telepresence using the SCOPIA XT Telepresence Platform. To give the feeling of an in-person meeting, the SCOPIA XT Telepresence incorporates state-of-the-art technology and support for:

- Full HD 1080p 30/60 fps video in each of the three cameras
- 20 kHz full band audio with 48 kHz sampling rate
- 1080p 30/60fps PC data sharing

- SCOPIA XT5000 Series

  The SCOPIA XT5000 Series is the latest product of the SCOPIA XT Series which sets the standard for an exceptional conferencing experience: HD 1080p with 48 kHz sampling rate and 60fps for live video and PC data sharing. The SCOPIA XT5000 is designed for an end user and is very easy to setup and control.

  The 3-way Microphone Pod provides superb signal-to-noise ratios. You can also add a second microphone for unparalleled large room coverage.

For an even better experience, the SCOPIA XT Series is enabled for Multi-Touch control via the Apple iPad (selected models).

The XT5000 and SCOPIA XT1200 can also host HD continuous presence videoconferences with their built-in MCU. Depending on your deployment, you can host videoconferences either with other H.323 and SIP endpoints, or you can extend participants to include both H.323/SIP endpoints and SCOPIA Desktop Clients:

- SCOPIA XT Series MCU Edition

  This features your chosen XT Series model with the ability to host videoconferences with standard H.323 and SIP endpoints. You can choose a license of up to 4 or 9 participants.

- SCOPIA XT Series SMB Edition

  This edition features your chosen XT Series model with the ability to host videoconferences with both H.323/SIP endpoints and/or SCOPIA Desktop Clients. It includes the software of the SCOPIA XT Desktop Server which must be deployed in the DMZ. In this deployment, you can choose a license that allows videoconferences with up to either 4 or 9 participants.

Note If your license allows 9 participants, you can include up to 8 remote endpoints.

If any participants in the videoconference connect from SCOPIA Desktop Clients (PC or mobile), you can include up to 7 remote endpoints, since one port is reserved for connecting to the SCOPIA Desktop Server.

For more information on the SMB Solution deployment, see the *Solution Guide for SCOPIA Solution*.

Technical Specifications

This section details the system specifications of the SCOPIA XT Series you purchased. Refer to this data when preparing system setup and afterwards as a means of verifying that the environment still complies with these requirements:

- For physical details of the system, such as the power requirements and weight of each component, see Table 1-1 on page 3.
- For specific video, audio, and control features of the system, such as supported codecs and web browsers, see Table 1-2 on page 4.
- For network information of the system, such as network interface cards, see Table 1-3 on page 5.
- For an overview of features and to compare between different XT Series models, see Table 1-4 on page 6.

Table 1-1 on page 3 refers to the physical details of the device.

Table 1-1 Physical device specifications

	SCOPIA XT5000 Series	SCOPIA XT4000 Series
System power requirements	100-240 VAC, 50/60 Hz, 1.8 A Max.	
Maximum power consumption	60W (205 BTU/h)	
Operating temperature	0°C to 40°C (32°F to 104°F)	
Relative humidity	5% to 90% non-condensing	
Storage temperature	-40°C to 70°C (-40°F to 158°F), ambient	
Physical dimensions and Net Weight	Height: 4cm (1.6"), Width: 29cm (11.4"); Depth 16.5cm (6.5") Weight: 2.4 kg (5.3 lb)	
Camera Physical dimensions and Net weight	Height: 15,2cm (6.0"), Width: 25cm (9.8"); Depth 13.5cm (5.3") Weight: 1.6 kg (3.5 lb)	
Microphone Pod Physical dimensions and Net weight	Diameter: 14cm (5.5"), Weight: 0.3 kg (0.7 lb)	Diameter: 12cm (4.7"), Weight: 0.4 kg (0.9 lb)
Microphone Pod capabilities	360º range Frequency response: 50 – 22,000 Hz Up to 2 cascaded pods	180º range Frequency response: 50 – 20,000 Hz

Table 1-2 on page 4 lists the protocols and software requirements.

Table 1-2 Video, audio and control capabilities

	SCOPIA XT5000 Series	SCOPIA XT4000 Series
Signaling protocols	H.323, SIP, ISDN (in conjunction with SCOPIA Gateway)	
Video codecs	H.263, H.263+, H.263++,H.264, H.264 SVC, H.264 High Profile, H.264 High Profile SVC	
Dual video	H.239 (H.323); BFCP (SIP)	
HDMI input formats	1920 x 1080 @ 25, 30, 50, 60fps 1280 x 720 @ 25, 30, 50, 60fps 720 x 576 @ 50fps 720 x 480 @ 60fps 640 x 480 @ 60fps	
Live video resolution	1920 X 1080 @ 25, 30, 50, 60fps: HD1080p25, 30, 50, 60 1280 x 720 @ 25, 30, 50, 60fps: HD720p25, 30, 50, 60 1024 x 576 @ 25, 30fps: w576p 768 x 448 @ 25, 30fps: w448p 704 x 576 @ 25, 30fps: 4CIF 704 x 480 @ 25, 30fps: 4SIF 576 x 336 @ 25, 30fps 512 x 288 @ 25, 30fps: wCIF 400 x 224 @ 25, 30fps 352 x 288 @ 25, 30fps: CIF 352 x 240 @ 25, 30fps: SIF	1280 x 720 @ 25, 30, 50, 60fps: HD720p25, 30, 50, 60 1024 x 576 @ 25, 30fps: w576p 768 x 448 @ 25, 30fps: w448p 704 x 576 @ 25, 30fps: 4CIF 704 x 480 @ 25, 30fps: 4SIF 576 x 336 @ 25, 30fps 512 x 288 @ 25, 30fps: wCIF 400 x 224 @ 25, 30fps 352 x 288 @ 25, 30fps: CIF 352 x 240 @ 25, 30fps: SIF
Presentation video resolution	1920 x 1080 @ 25, 30, 50, 60fps 1440 x 900 @ 60fps: WSXGA 1280 x 1024 @ 60fps: SXGA 1280 x 720 @ 25, 30, 50, 60fps 1280 x 768 @ 60fps: WXGA 1024 x 768 @ 60fps: XGA 800 x 600 @ 60fps: SVGA 640 x 480 @ 60fps: VGA	1280 x 720 @ 25, 30, 50, 60fps 1280 x 768 @ 60fps: WXGA 1024 x 768 @ 60fps: XGA 800 x 600 @ 60fps: SVGA 640 x 480 @ 60fps: VGA
HDMI output formats	1920 x 1080 @ 25, 30, 50, 60fps 1280 x 720 @ 50, 60fps	1280 x 720 @ 50, 60fps

	SCOPIA XT5000 Series	SCOPIA XT4000 Series
Video bandwidth	Up to 12Mbps for a multipoint call Up to 6Mbps for 1080p in a point-to-point call	Up to 4Mbps for 720p
Camera resolution	1080p 60fps	720p 60fps
Audio codecs	G.711, G.728, G.729A, G.722, G.722.1, G.722.1 Annex C, G.719, AAC-LD	G.711, G.728, G.722, G.722.1, G.722.1 Annex C, G.719
Web browser support	Internet Explorer version 7 or later Google Chrome (latest version) Mozilla Firefox version 3.6 or later Apple Safari version 5 or later Opera version 11 or later	

Table 1-3 on page 5 lists the XT Series's network interface and firewall traversal information.

Table 1-3 Network and security capabilities

	SCOPIA XT5000 Series	SCOPIA XT4000 Series
Network Interfaces	2 x 10/100/1000 Base-T full-duplex (RJ-45)	2 x 10/100/1000 Base-T full-duplex (RJ-45). (2nd GLAN is optional)
Firewall Traversal	Auto NAT discovery HTTP and STUN H.460.18, H.460.19	

Table 1-4 on page 6 summarizes the differences between each of the models in the SCOPIA XT Series.

Table 1-4 Differences in features for models in the SCOPIA XT Series

Feature	SCOPIA XT1000 Piccolo	SCOPIA XT1200	SCOPIA XT Telepresence	SCOPIA XT4000 Series	SCOPIA XT5000 Series
Maximum HD resolution	720p	1080p	3 x 1080p	720p	1080p
Frames Per Second (fps)	30fps	30fps, 720p at 60fps (outgoing only for XT1000 is 720p 30fps)	Depends on the XT Codec Unit; see SCOPIA XT1200 or SCOPIA XT5000 Series	60fps	60fps, both at 720p and 1080p
Hosting videoconferences (embedded MCU)	No	Optional	No	No	Optional
Optical zoom	5x	10x	10x	5x (10x optional)	10x
Total zoom (optical x digital)	5x	10x (40x optional)	N/A	40x (optional)	40x
Dual video	720p at 30fps	1080p at 30fps	Depends on the XT Codec Unit; see SCOPIA XT1200 or SCOPIA XT5000 Series (x 3 for transmission)	720p at 60fps	1080p at 60 fps
Scalable video coding	No	No	Depends on the XT Codec Unit; see SCOPIA XT1200 or SCOPIA XT5000 Series	Yes	Yes
High Profile H.264	No	No	Depends on the XT Codec Unit; see SCOPIA XT1200 or SCOPIA XT5000 Series	Yes	Yes
Type of Microphone Pod	3-way	3-way	3-way	1-way	3-way

Feature	SCOPIA XT1000 Piccolo	SCOPIA XT1200	SCOPIA XT Telepresence	SCOPIA XT4000 Series	SCOPIA XT5000 Series
Additional Ethernet connection	Optional (10/100)	Optional (10/100)	Depends on the XT Codec Unit; see SCOPIA XT1200 or SCOPIA XT5000 Series	Optional (10/100/1000)	Yes (10/100/1000)
SCOPIA Control	Optional	Optional	Yes	Optional	Yes

2 Planning the Topology of the SCOPIA XT Series Deployment

There are a number of ways that the SCOPIA XT Series can be deployed in a network, depending on whether you use it as a room system endpoint or a conference hosting system, and the type of the endpoints connecting to the unit.

- Using SCOPIA XT Series as Endpoints ..... page 8
- Using the SCOPIA XT Series Embedded MCU ..... page 9
- Hosting Videoconferences with SCOPIA XT Series and SCOPIA XT Desktop ..... page 10
- Planning NAT and Firewall Traversal with SCOPIA XT Series ..... page 11
- Supporting ISDN Connectivity ..... page 14
- Implementing External API Control ..... page 14
- Implementing Port Security for the SCOPIA XT Series ..... page 14

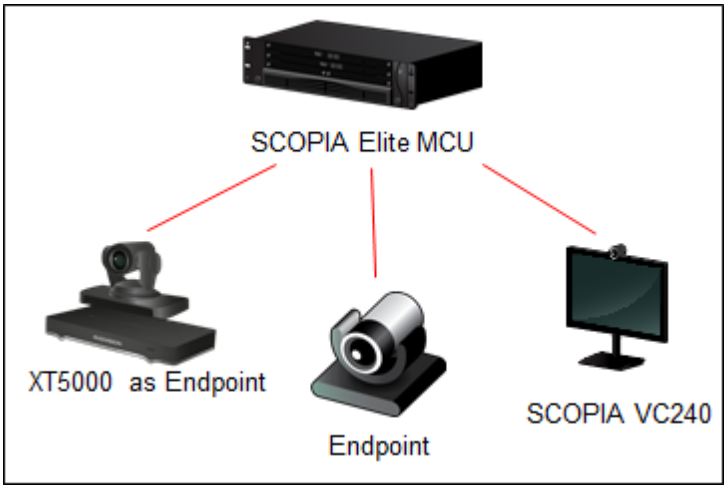
Using SCOPIA XT Series as Endpoints

Figure 2-1 on page 9 illustrates a topology in which the SCOPIA XT Series act as endpoints:

- The MCU (for example, SCOPIA Elite MCU) performs media processing for endpoints regardless of their location and can handle multiple conferences simultaneously (includes all connected SCOPIA XT Series, SCOPIA VC240 and compatible third-party endpoints).

  SCOPIA Elite MCU incorporates multi-party 1080p, 720p and H.264 Scalable Video Coding (SVC).
- SCOPIA VC240 integrates advanced video conferencing into a Samsung high resolution 24-inch multimedia LCD monitor.

Figure 2-1 SCOPIA XT Series as Endpoints



Using the SCOPIA XT Series Embedded MCU

The SCOPIA XT Series MCU Edition includes an embedded MCU and is available as a license option for the XT5000 and SCOPIA XT1200 models only.

Activate the MCU capability by registering the XT Codec Unit, as described in "Registering the SCOPIA XT Series to Obtain a License Key".

The SCOPIA XT Series MCU Edition can deploy two levels of MCUs:

- MCU4 - Host videoconferences with up to 4 participants (1 Local and 3 Remote).
- MCU9 - Host videoconferences with up to 9 Participants (1 Local and 8 Remote).

The embedded MCU can host standard definition (SD) and high definition (HD) endpoints simultaneously (see Table 2-1 on page 9 for details). The presence of SD endpoints does not affect the quality received by HD endpoints. SD endpoints will receive SD video streams and HD endpoints will receive HD video streams. In the same way 4:3 and 16:9 video formats are included in the best possible way into the continuous presence (CP) mosaic.

Table 2-1 Video capabilities for participants hosted by SCOPIA XT Series MCU Edition

Maximum Resolution	XT5000	SCOPIA XT1200
Displayed and transmitted resolution (max)	1080p	720p
Resolution of single participant's video in layout (max)	448p	448p

Note For MCU9, the capabilities depend on the selected CP layout.

For the best experience when using the SCOPIA XT Series MCU Edition, we recommend:

- Enabling the High Bandwidth Option (12Mbps), available as a separate license (for details, see *Installation Guide for the SCOPIA XT Series*). Otherwise, the MCU sends out a lower resolution at the standard 6Mbps total bandwidth.
- If the SCOPIA XT Series is used only as an MCU for hosting videoconferences, block the audio and video input from this SCOPIA XT Series during the meeting. For details, see the *User Guide for SCOPIA XT Series*.

Hosting Videoconferences with SCOPIA XT Series and SCOPIA XT Desktop

You can enable this functionality by registering your XT Series using the MCU/SCOPIA XT Desktop product key. SCOPIA XT Desktop is supported for selected models only, and requires SCOPIA XT Desktop version 7.7.100.221 or later.

SCOPIA XT Desktop expands the possibilities of hosting videoconferences on the XT Series by enabling participants to join a videoconference with just a PC, web browser or a mobile device.

The SCOPIA XT Desktop solution combines HD room system capabilities, embedded multi-party conferencing, desktop conferencing and firewall traversal. The SCOPIA XT Desktop option is delivered on a CD for installation on a separate server.

The solution enables remote users to easily connect to a meeting, relying only on the XT Series and its embedded MCU with no extra hardware to acquire, deploy and configure. A single SCOPIA Desktop Server is deployed with a single XT Series unit, utilizing the endpoint's embedded MCU.

For example, when a meeting is held in a conference room with the XT Series hosting the call, and a remote user is connected with an endpoint, other remote users can use their web browsers to point it to the SCOPIA XT Desktop to connect to the meeting.

Two levels of SMBs are available:

- Full SMB4 - Basic MCU level with up to 4 participants: 1 local and 3 remote mixed endpoints and PC clients.
- Full SMB9 - Advanced MCU level with up to 9 participants:
  - 1 local and 8 remote endpoints

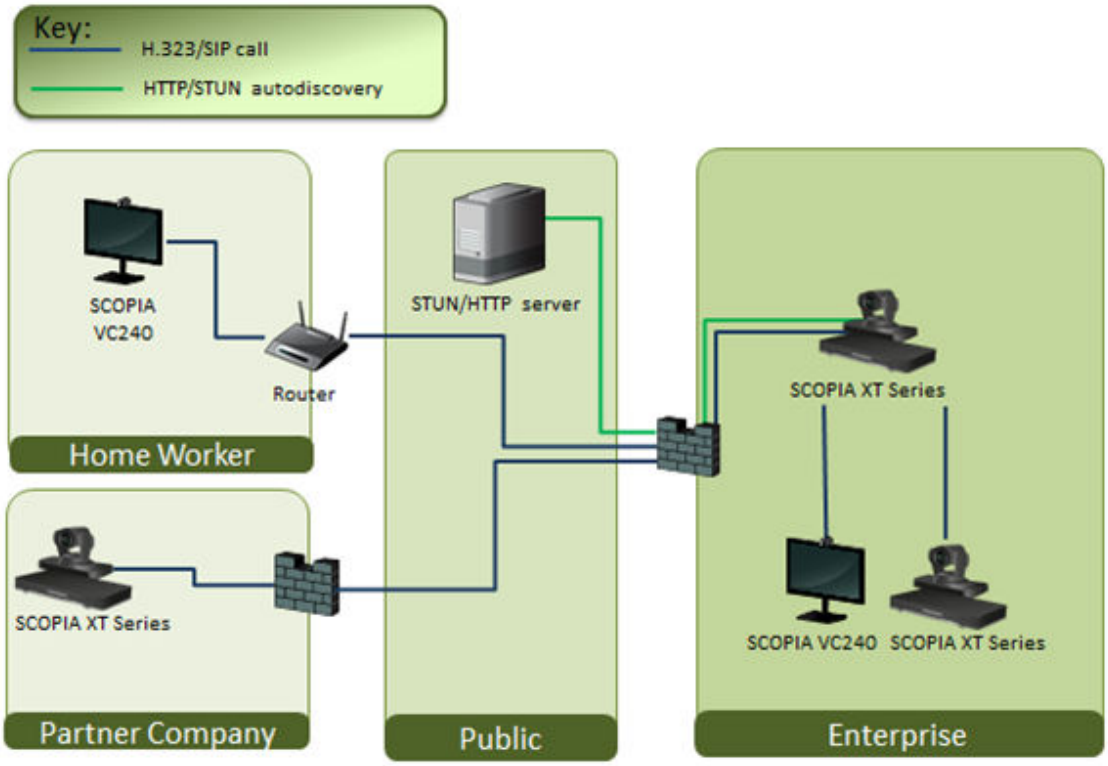
    Or
  - 1 local and 7 mixed endpoints and PC clients

SCOPIA XT Series fully supports NAT and firewall traversal, enabling you to place the unit behind a NAT router or firewall and connect with other endpoints seamlessly. This section describes four approaches to NAT and firewall traversal with XT Series:

- Using a RADVISION HTTP server or a STUN public server for NAT and firewall traversal

  When the XT Series hosts a videoconference with endpoints outside the enterprise (Figure 2-2 on page 11), it first queries the HTTP or STUN server to discover its public IP address, then sends it to any external endpoints wishing to join the conference. The external endpoints then answer the call using the IP address provided. Configure the XT Codec Unit for HTTP or STUN autodiscovery.

Figure 2-2 Using an HTTP/STUN Server for NAT and Firewall Traversal



This approach works well in simple NAT and firewall traversal deployments, typically used by home offices and Small Medium Businesses (SMBs).

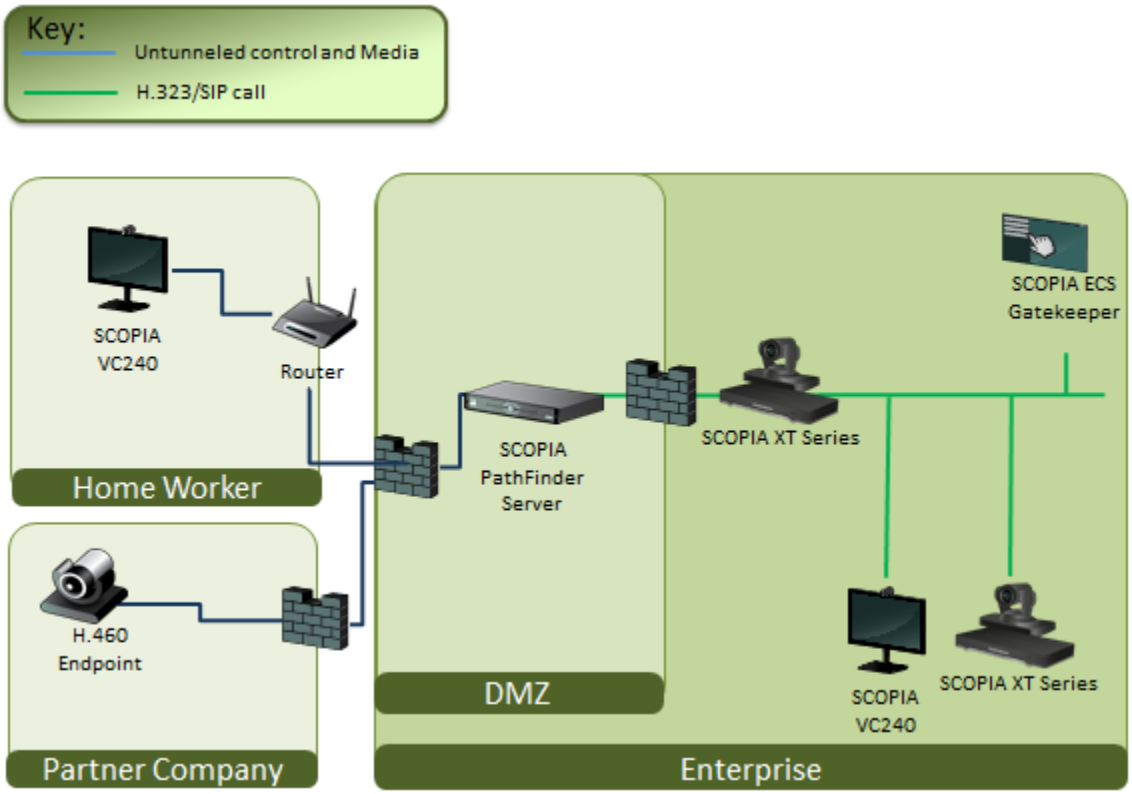
- Using a NAT/firewall traversal server supporting H.460

  The endpoints in the private network communicate with the endpoints located in the public network via an H.460 NAT/firewall traversal server, like the SCOPIA PathFinder (see Figure 2-3 on page 12). Endpoints in the public network can join a conference hosted in the private network via the traversal server if there is an open connection through the firewall. Verify the duration of the firewall pinhole and configure that time in the XT Codec Unit.

Having a dedicated NAT/firewall traversal server like the SCOPIA PathFinder offers external endpoints a static address when joining conferences hosted in your organization. You can dial 1234@pathfinder.company.com to access from outside the firewall, or you can dial 1234 directly if you are a H.460 client logged in to the SCOPIA PathFinder Server.

H.460 is an extension of the H.323 protocol used for NAT and firewall traversal, employing ITU-T standards. The traversal server can be a a SCOPIA PathFinder or a third-party ITU-T compliant server.

Figure 2-3 Using a NAT and Firewall Traversal Server



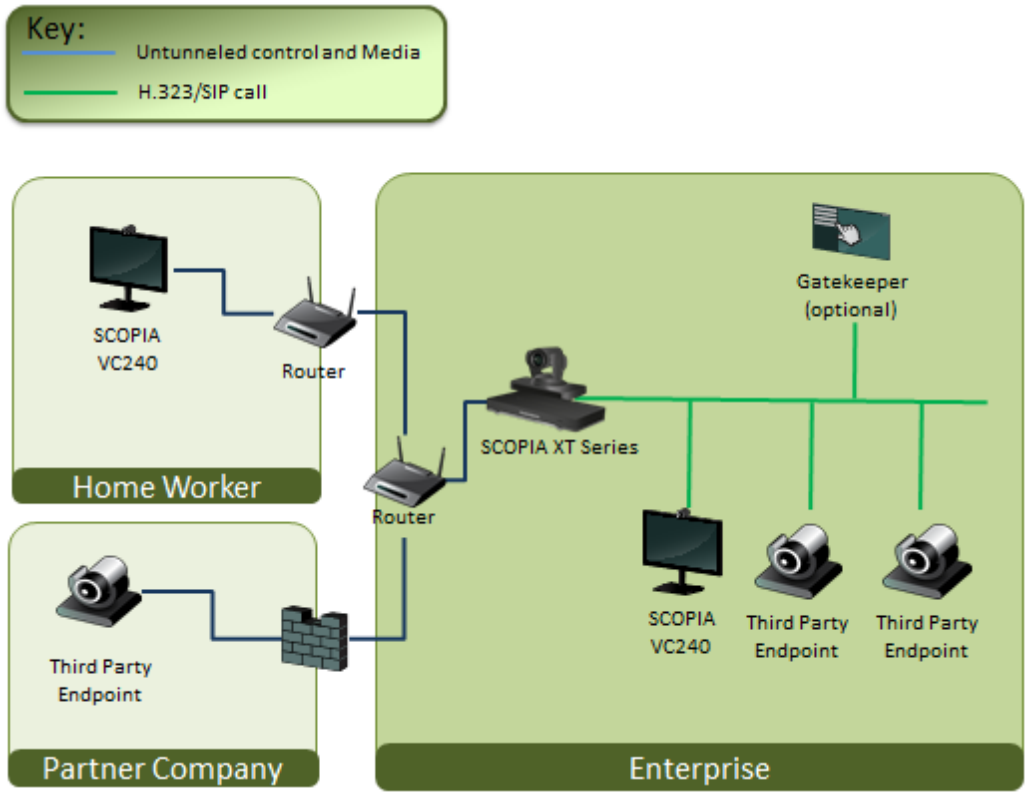
Configure the traversal server as the XT Codec Unit gatekeeper and enable the H.460 option. Configure the XT Codec Unit to the IP address of the traversal server SCOPIA PathFinder.

- Using the XT Series for NAT and firewall traversal

  In cases where your organization has no sophisticated firewall protection, the XT Series can straddle the two network zones using the two network ports provided on the XT Codec Unit (see Figure 2-4 on page 13).

  Use the GLAN ports of the XT Codec Unit simultaneously and connect one port to the public network and the other to your private network. All communication passes through the XT Series which acts as the virtual conference room for all the endpoints.

Figure 2-4 Using XT Series for NAT and Firewall Traversal



There are two possible setups in the GLAN1 and GLAN2 configuration (see Figure 2-4 on page 13):

1. When there is no gatekeeper, XT Series communicates simultaneously with the public and private network endpoints using IP addresses. This configuration is suitable for SMBs.
2. When there is a gatekeeper, it is configured to manage the private network endpoints. SCOPIA XT Series is registered with the gatekeeper and communicates with endpoints in the private and in the public network:
   - SCOPIA XT Series communicates with the private network endpoints using IP addresses or aliases, under the control of the gatekeeper.
   - SCOPIA XT Series communicates with the public network endpoints using IP addresses.
   - SCOPIA XT Series communicates at the same time both with the public and private endpoints if the MCU option is activated. In this scenario SCOPIA XT Series uses either aliases or IP addresses depending on whether it deploys the gatekeeper or not.

Supporting ISDN Connectivity

The SCOPIA XT Series supports ISDN connectivity, allowing calls from endpoints to be routed to the relevant conference using the SCOPIA BRI (Basic Rate Interface) and PRI (Primary Rate Interface) gateways.

RADVISION has implemented a special pairing mechanism between the gateway and the endpoint so that ISDN dialing is very simple. After pairing the systems, the participants place ISDN calls by dialing the remote party ISDN number. The system automatically and transparently takes care of setting the bit rate and call routing through the ISDN gateway.

A single gateway can serve multiple endpoints. For example, an organization needs to enable 5 endpoints with ISDN connectivity. Assuming the requested ISDN connectivity speed is 256bps, use only one ISDN PRI gateway as it can support 5 concurrent calls of 256bps each.

With the gateway approach less communication lines are needed. As all gateways do not connect at the same time and not all calls are ISDN, many more endpoints can share the same ISDN connection and gateway.

Implementing External API Control

You can control the XT Codec Unit using the SCOPIA XT Series API (requires integration with AMX, Creston, or Extron control devices). Contact RADVISION customer support to receive the *Reference Guide for SCOPIA XT Series API*, which includes the list of commands over the Ethernet interface.

Implementing Port Security for the SCOPIA XT Series

The SCOPIA XT Series provides video technology for room conferencing, including support for dual stream 1080p video, high quality data sharing, high quality full band audio and a high capacity embedded MCU.

This section details the ports used for the SCOPIA XT Series and the relevant configuration procedures:

- Ports to Open on the SCOPIA XT Series ..... page 14
- Configuring the TCP or UDP Port Range on the SCOPIA XT Series ..... page 18

Ports to Open on the SCOPIA XT Series

The SCOPIA XT Series is typically located in the enterprise network and is connected to the DMZ. When opening ports to and from the SCOPIA XT Series, use the following as a reference:

- If you are opening ports that are both to and from the SCOPIA XT Series, see Table 2-2 on page 16.
- If you are opening outbound ports from the SCOPIA XT Series, see Table 2-3 on page 18.

Note	The specific firewalls you need to open ports on depends on where your SCOPIA XT Series and other SCOPIA Solution products are deployed.

Table 2-2 Bidirectional Ports to Open on the SCOPIA XT Series

Port Range	Protocol	Destination	Functionality	Result of Blocking Port	Required
69	TFTP (UDP)	TFTP client or server	Enables sending and receiving files via TFTP	Cannot send or receive files via TFTP	Optional
80	HTTP (TCP)	Web server	Enables you to remotely perform management tasks via the web user interface, enables NAT auto-discovery via HTTP	In: Cannot access the web server Out: Cannot access the web server and NAT auto-discovery via HTTP does not function	Recommended
123	SNTP (UDP)	SNTP client	Gets the Internet UTC time	Cannot get the Internet UTC time	Recommended
161	SNMP (UDP)	SCOPIA Management or any other SNMP manager station	Enables you to configure the endpoint and check the endpoint status	Cannot configure or check the status of the endpoint via SNMP	Mandatory if using SNMP manager station
1719	H.225.0/ RAS (UDP)	Any H.323 video network device	Enables H.323 call signaling to a gatekeeper; H.323 endpoints can use gatekeeper services.	H.323 endpoints cannot use gatekeeper services	Recommended
1720	H.225.0/ Q.931 (TCP)	Any H.323 video network device	Enables H.323 call signaling (Q.931)	Cannot connect H.323 calls	Mandatory
3230-3248	H.225.0/Q.931/ H.245/ SIP (TCP)	Any H.323 video network device	Enables H.323 call control signaling (Q.931), media control signaling (H.245), SIP (TCP) call signaling, and BFCP signaling. Ephemeral TCP ports are used to connect simultaneous H.323 and SIP calls.	Cannot connect SIP/H.323 calls	Mandatory To configure, see "Configuring the TCP or UDP Port Range on the SCOPIA XT Series" on page 18
3230-3305	RTP and RTCP (UDP)	Any H.323 video network device	Enables H.323 and SIP media (audio, video, H.224/data RTP) and media control (RTCP). Ephemeral UDP ports are used to connect simultaneous H.323 and SIP media calls.	No media exchanged in H.323 or SIP calls	Mandatory To configure, see "Configuring the TCP or UDP Port Range on the SCOPIA XT Series" on page 18

Port Range	Protocol	Destination	Functionality	Result of Blocking Port	Required
3338	XML Commands (TCP)	SCOPIA Control, SCOPIA XT Desktop Server	Enables communication with SCOPIA Control and SCOPIA XT Desktop Server by sending commands and receiving responses	Cannot communicate with SCOPIA Control application or and SCOPIA XT Desktop Server	Optional
3478, 3479	STUN (UDP)	STUN Server	Enables endpoints outside of the enterprise firewall to determine their public IP address and automatically discover the presence of a firewall or NAT	Cannot automatically discover the presence of a firewall or NAT (only manual configuration available)	Optional
5060	SIP (TCP)	Any SIP-enabled video network device	Enables SIP call signaling	Cannot connect SIP calls over TCP	Mandatory
5060	SIP (UDP)	Any SIP-enabled video network device	Enables SIP call signaling	Cannot connect SIP calls over UDP	Mandatory
5070	BFCP (TCP)	Any SIP-enabled video network device	Enables SIP video content (presentation) signaling	No SIP video content available	Mandatory
55003	AT Commands (TCP)	SCOPIA Management	Enables you to remotely manage the SCOPIA XT1000 via API	Cannot send/ receive commands	Optional
55099	Software Upgrade (TCP)	SCOPIA Management/ SCOPIA XT Series Software Upgrade application	Enables software upgrade	Cannot upgrade software	Recommended
60123	Telnet (TCP)	Telnet server	Enables remote management via Telnet	No Telnet access	Optional

Table 2-3 Outbound Ports to Open from the SCOPIA XT Series

Port Range	Protocol	Destination	Functionality	Result of Blocking Port	Required
162	SNMP (UDP)	SCOPIA Management or any other SNMP manager station	Enables sending SNMP trap events	Endpoints cannot send SNMP events	Optional
1718	H.225.0/ RAS (UDP)	Multicast IP address 224.0.1.41 (all gatekeepers)	Enables H.323 endpoints to automatically identify the gatekeeper to register with	H.323 endpoints can only register with a predefined gatekeeper	Recommended
3339, 3340	XML HINTS (TCP)	SCOPIA Control, SCOPIA XT Desktop Server	Enables receiving system status alerts	Cannot send system status alerts; SCOPIA Control and SCOPIA XT Desktop Server cannot function.	Optional

Configuring the TCP or UDP Port Range on the SCOPIA XT Series

You can configure the TCP or UDP port range by setting the base port, which is the lower end of the port range (if, for example, port 3230 is busy).

The SCOPIA XT Series uses dynamic TCP ports 3230-3248 for the following:

- H.225.0: An H.323 protocol that specifies the messages and procedures used by gatekeepers to set up calls.
- Q.931:A telephony protocol used for establishing and terminating the connection in H.323 calls.
- H.245: A Control Protocol used for multimedia communication; enables transferring information about the device capabilities, as well as opening/closing the logical channels that carry media streams.
- SIP: A signaling protocol used for creating, modifying, or terminating multimedia connections between two or more participants.

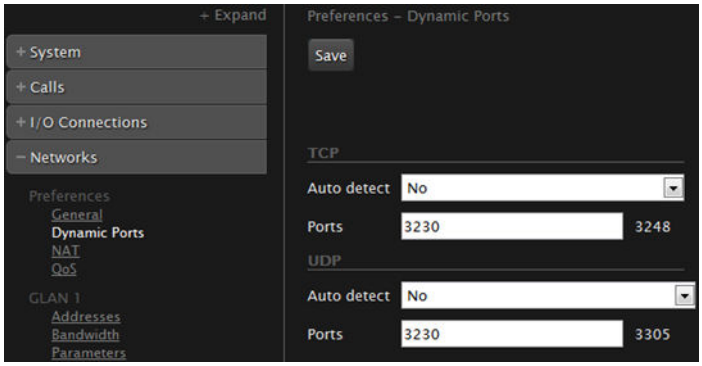
The SCOPIA XT Series uses dynamic UDP ports 3230-3248 for enabling real-time H.323 and SIP media, including audio, video, and H.224/data (RTP), and media control (RTCP).

Procedure

Step 1 Access the port settings as follows:

- From the web interface, select Administrator Settings > Networks > Preferences > Dynamic Ports.
- From the endpoint interface, select Configure > Advanced > Networks > Preferences > Dynamic Ports.

Figure 2-5 Configuring the TCP or UDP port range from the web interface



Step 2 Define how the XT Codec Unit assigns ports by selecting one of the following from Auto detect:

- No: The XT Codec Unit uses the range of dynamic ports indicated and allows you to define the base port (default and recommended setting).
- Yes: The XT Codec Unit assigns ports randomly, and you cannot define the base port.

Step 3 If you selected No in the Auto detect list, you can modify the TCP or UDP base port in the Ports field.

Note You can configure the base port to any value between 1024-65535. The number of ports is calculated automatically by the system, depending on whether you have an MCU license and its type.

Step 4 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

3 Prerequisites for Setting up the System

Before beginning the installation of the system, you must read the safety regulations for a safe use of the system, verify the conference room setup, and check that the product corresponds to your order. The setup prerequisites are described in these sections:

- Complying with Safety Regulations ..... page 20
- Planning the Conference Room Setup ..... page 20
- Inspecting the Product ..... page 22

Complying with Safety Regulations

For detailed safety information consult the SCOPIA XT Series Safety Instructions leaflet enclosed in the delivery package.

Planning the Conference Room Setup

Set up the conference room to enjoy virtual meeting. RADVISION provides useful information on conference room setup in http://blog.radvision.com/videooverenterprise/2010/05/11/ask-the-expert-designing-your-conference-room/

SCOPIA XT Series can receive the Infra-Red (IR) command of the XT Remote Control Unit via:

- The XT Codec Unit IR receiver
- The IR receiver of the XT Premium Camera or XT Standard II Camera. In this case the XT Remote Control Unit sends the command to the XT Codec Unit using the VISCA connection. The position of the XT Codec Unit in the conference room is not important for receiving the signal from the XT Remote Control Unit. But it is important to connect the main camera correctly to the XT Codec Unit via the VISCA Cross cable.

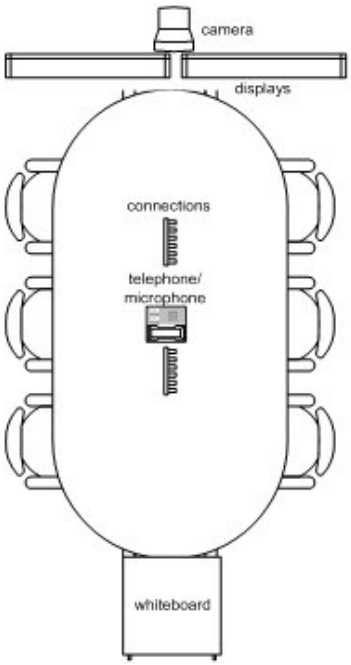
Place the XT Codec Unit anywhere within 5 meter reach of the camera cables. Leave enough space for air circulation and for connecting cables easily.

Place the camera(s) in a position to ensure eye contact between local and remote participants. Recommended position is either directly below or directly above the monitors, in central position, at a distance which enables capture of the entire table.

Caution Do not place the camera on top of the XT Codec Unit. It can cause the system to overheat.

Place the Microphone Pod at the center of the table. To help with echo cancellation, we recommend to position the Microphone Pod as far as possible from loudspeakers and other noise sources (for example, computer fans).

Figure 3-1 Suggested Room Setup



Avoid white walls as they can introduce an effect-like backlight: a white wall increases the illumination behind the person. Avoid glass walls, as well as patterns and textures on the walls as they may cause disturbances to visual effects. We recommend to have plain walls of neutral color. Also, in order to avoid reverberations, we recommend to use heavy curtains of neutral color and carpets.

The conference room should be air-conditioned and kept at a cool temperature to avoid the XT Codec Unit switching on its fan.

The conference room should be well and uniformly lit, avoiding a mixture of natural and artificial light. Light should come from the top of the conference table, the front and the rear (for depth of field). If only ceiling light is available, it should contribute to maintain a pleasant environment and generate as less heat as possible.

The IR sensors of the XT Codec Unit and the camera might not receive the infrared rays under sunlight or near inverter fluorescent lamps.

Inspecting the Product

Inspect the contents of the package for shipping damages.

For a list of package contents see the invoice shipped with your order.

Report any damage or missing items to your distributor or reseller.

Keep the package and its contents for inspection resulting from loss or damage claim.

4 Setting up the SCOPIA XT Series

After reading the section "Prerequisites for Setting up the System" on page 20, you can install the SCOPIA XT Series. These sections describe how to install the XT Codec Unit and connect it to its peripherals:

- Mounting of the XT Codec Unit ..... page 23
- Connecting SCOPIA XT Series ..... page 24
- Connecting SCOPIA XT Series to Your Network ..... page 24
- Connecting a Computer ..... page 24
- Selecting the Computer Display Resolution ..... page 26
- Connecting the Audio Equipment ..... page 27
- Connecting the Video Equipment ..... page 30
- Installing the Batteries of the XT Remote Control Unit ..... page 35

Mounting of the XT Codec Unit

Follow the guidelines in this section to correctly place the XT Codec Unit.

Procedure

Place the XT Codec Unit following these guidelines:

- Place the XT Codec Unit on a horizontal surface which stands firmly on its base.
- The surface must be dry and free of dust, oil and other residues.
- Leave enough space for air circulation and for connecting cables easily.
- Place the XT Codec Unit anywhere within 5 meter reach of the camera cables.

Caution Do not place the camera on top of the XT Codec Unit. It can cause the system to overheat.

Connecting SCOPIA XT Series

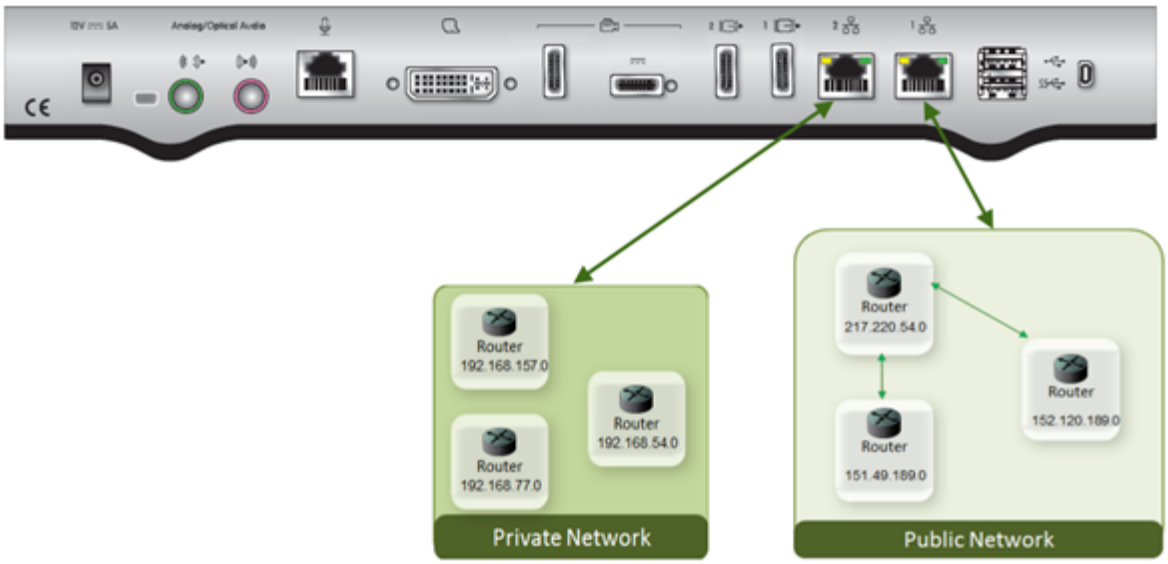
For operational information about connecting SCOPIA XT5000 Series, refer to the Quick Setup Guide for SCOPIA XT5000 Series.

Connecting SCOPIA XT Series to Your Network

Your SCOPIA XT Series has two GLAN 10/100/1000 ports for connecting to the network.

You can use both ports for connecting to the private and public network, however we recommend that you always connect the private network to the second GLAN port, whether one router interfaces with the SCOPIA XT Series or multiple routers interface with the SCOPIA XT Series (Figure 4-1 on page 24).

Figure 4-1 Connecting the XT Codec Unit to a private and a public network



Connecting a Computer

Use a computer to share a presentation or other PC content during a call. This procedure describes how to connect computers that are equipped with a DVI-out or VGA-out connector.

The XT Codec Unit supports many DVI input resolutions, listed in Table 4-1 on page 25.

Table 4-1 DVI input formats supported by XT Codec Unit

Name	Resolution
1080p	1920x1080
SXGA	1280x1024
HD+ (900p)	1600x900
WSGA	1440x900
UVGA	1280x960
WXGA	1280x768
720p	1280x720
XGA	1024x768
SVGA	800x600
VGA	640x480

Procedure

Step 1 Connect your computer to the XT Codec Unit:

- For computers and laptops with a DVI out connector, connect the DVI cable to the DVI-I socket of the XT Codec Unit and connect the other end of the cable to the computer.

Figure 4-2 Connecting a computer to SCOPIA XT Series

- For computers with a VGA output connector, use the included DVI to VGA adapter.

a. Connect the DVI-VGA adapter to the DVI-IN socket of the XT Codec Unit.

b. Connect a VGA cable to the adapter. This cable is not supplied with the system.

c. Connect the VGA cable to the PC/Laptop VGA out socket.

Step 2 Connect the computer audio to the XT Codec Unit.

Since audio input is not included in the DVI-I port to XT Codec Unit connection, you need to make a separate audio connection from the computer's audio output port into the audio input port of the XT Codec Unit.

Note The audio input port supports both analog and digital optical audio.

Step 3 Continue with setting the display resolution, as described in "Selecting the Computer Display Resolution" on page 26.

Selecting the Computer Display Resolution

For optimal display quality, and to prevent the screen from flickering during the videoconference, set the computer display to one of the supported picture resolutions and refresh frequencies. This procedure assumes computers running Microsoft Windows.

Procedure

Step 1 From the Windows Control Panel, navigate to the screen resolution settings.

Step 2 Select the desired screen resolution. See Table 4-2 on page 26 for the list of resolutions supported by the XT Codec Unit.

Step 3 Select Apply.

Step 4 Select the refresh frequency rate from the Screen refresh rate field. See Table 4-2 on page 26 for the supported resolution and refresh rates.

Table 4-2 Resolution and Refresh Frequencies

Name	Resolution	Digital Refresh Frequency (Hz)	Analog Refresh Frequency (Hz)
1080p	1920x1080	60	60
SXGA	1280x1024	60,75	60, 75
HD+ (900p)	1600x900	60	N/A
WSGA	1440x900	60	60
UVGA	1280x960	60, 85	60, 85
WXGA	1280x768	60	N/A
720p	1280x720	60	60
XGA	1024x768	60, 70, 75	60, 70, 75
SVGA	800x600	60, 72, 75	60, 72, 75
VGA	640x480	72, 75	72, 75

Step 5 Select Apply.

Connecting the Audio Equipment

These sections describe how to connect the audio peripherals to the XT Codec Unit.

- Connecting the Microphone Pod ..... page 27
- Connecting an External Microphone System ..... page 28
- Connecting Analog Stereo Audio Equipment to the Analog Connector ..... page 29

Connecting the Microphone Pod

The 3-way Microphone Pod performance varies with room characteristics, background noise levels, and loudness and position of speakers.

When used in typical settings, the Microphone Pod can cover a radius of 2 meters (about 6.5 feet).

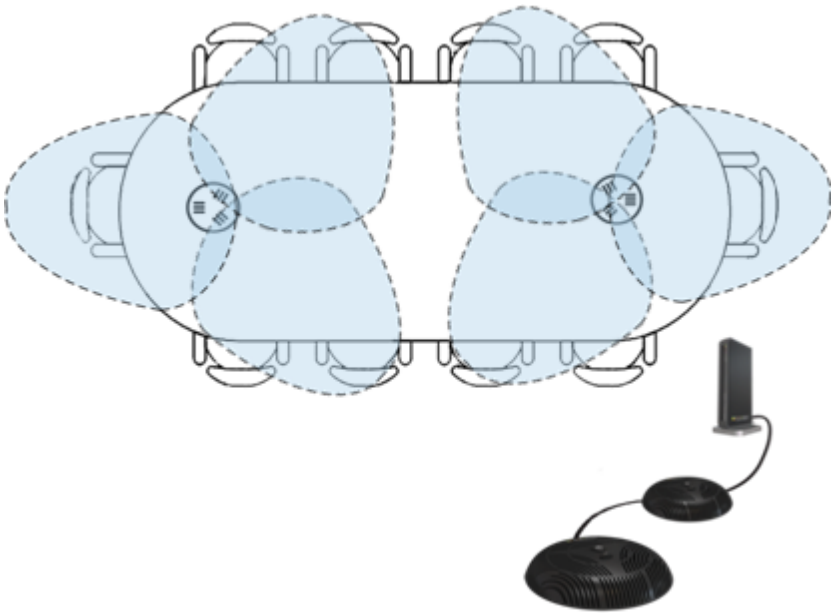
The second Microphone Pod is available for selected models only. You cannot use more than two Microphone Pods for one system.

In the current version release, the XT Codec Unit does not encode/decode stereo signals.

For optimal results:

- Place the Microphone Pod at the center of the table.
- In a larger conference room, connect 2 Microphone Pods. Distribute them evenly on the table.
- To help with echo cancellation, we recommend that you position the Microphone Pod as far as possible from loudspeakers and other noise sources (for example, computer fans).

Figure 4-3 Microphone Setup



Procedure

Step 1 Connect the Microphone Pod output to the rear panel of the XT Codec Unit.

Figure 4-4 Microphone Pod

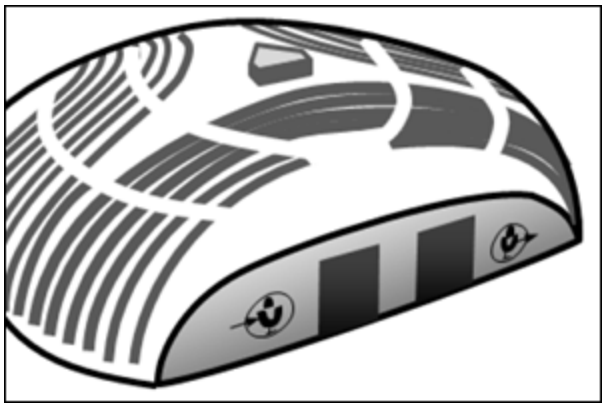


Figure 4-5 Connecting the Microphone Pods to the XT Codec Unit of SCOPIA XT5000 Series

Step 2 (Optional) Connect the second Microphone Pod output to the first Microphone Pod input .

Connecting an External Microphone System

When the two-pod configuration is not sufficient for covering the room, use an external microphone system.

You need to acquire audio mixers from third-parties (for example, Clear One). An audio mixer can connect multiple microphones, mix them, cancel the echo and generate a single audio stream that feeds into the audio inputs of your SCOPIA XT Series XT Codec Unit.

Make sure the microphone mixer provides these connectors: an analog audio I/O (mini jack 3.5”) connector and a digital optical connector with a mini-TOSlink adapter

SCOPIA XT Series supports echo cancellation on the external audio interface.

You must enable the echo canceller when working with an external microphone system that does not contain echo cancellation. See “Configuring the Echo Canceller” on page 78.

Disable echo cancellation when working with an external mixer that handles echo cancellation externally.

Connecting Analog Stereo Audio Equipment to the Analog Connector

You can connect analog audio equipment (for example, an external amplifier) to the stereo analog connector of the XT Codec Unit. This procedure describes how to connect an external amplifier.

You must enable the echo canceller when working with an external microphone system that does not contain echo cancellation. See “Configuring the Echo Canceller” on page 78.

Note The XT Codec Unit’s analog audio input supports a balanced microphone or an unbalanced line. The analog audio output is unbalanced.

A typical system configuration could be:

- Connecting the analog audio output by the XT Codec Unit to an amplifier. On the other end, the amplifier could be connected to speakers. This configuration is useful for large-size conference rooms.
- Connecting an audio mixer to the analog audio input. On the other end, the mixer could be connected to other microphones. This configuration is useful for large-size conference rooms.
- Connecting a microphone to the analog audio input.

Figure 4-6 Connecting an Analog Device to the Analog Connector on SCOPIA XT5000 Series

Procedure

Step 1 Verify you have a shielded stereo audio cable with an 1/8” stereo audio plug.

Step 2 Insert the green plug into the green analog connector.

Step 3 Insert the white plug into the left audio device connector.

Step 4 Insert the red plug into the right audio device connector.

Connecting the Video Equipment

These sections describe how to connect the video devices to the XT Codec Unit.

- Connecting the Primary XT Premium Camera ..... page 30
- Connecting the Optional XT Premium Camera ..... page 31
- Connecting Cameras for Controlling the Optional XT Premium Camera with the XT Remote Control Unit ..... page 33
- Using a DVD or Blu-ray Player ..... page 34
- Connecting Analog Video Equipment ..... page 34

Connecting the Primary XT Premium Camera

Place the camera in a position to ensure eye contact between local and remote participants. Recommended position is either directly below or directly above the monitors, in central position, at a distance which enables capture of the entire table.

Caution Do not place the camera on top of the XT Codec Unit. It can cause the system to overheat.

Procedure

Step 1 Remove the camera stabilizing cartons.

Caution A failure to remove the camera stabilizing cartons before connecting the camera can cause damage to the system.

Step 2 Connect the XT Premium Camera to these ports on the XT Codec Unit using the camera cable:

- HD CAM port
- Power and control port

Figure 4-7 Connecting the XT Premium Camera for XT5000 Series

Note If you connect a camera to the DVI-I input, the system manages it as PC content.

Connecting the Optional XT Premium Camera

The XT Premium Camera kit contains a camera, remote control, power supply, 5-meter DVI-HDVI cable, and 10-meter VISCA cross cable.

You can connect the optional camera to the XT Codec Unit together with other devices to get the number of video streams that best fit your conference. Typically, you connect the main camera to the HD CAM connector and the optional camera to the DVI connector. For information about connecting a computer, see "Connecting a Computer" on page 24.

There are two ways of controlling the XT Premium Camera:

- Using the XT Remote Control Unit provided with the XT Premium Camera kit.
- Using the XT Remote Control Unit. In that case you control both cameras, main and optional, using the same XT Remote Control Unit.

Before you begin

Verify that you have the following:

- An HDMI to DVI adapter, needed to connect the two cameras

- If the included video cables cannot be used for your system because of length requirements, ensure you have a video cable with 1080p60 support

Procedure

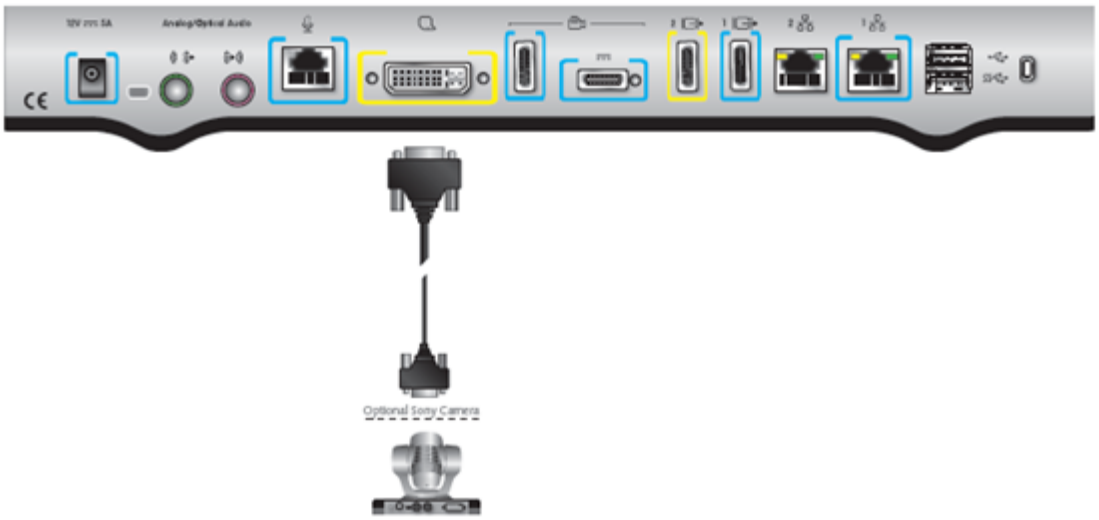
Step 1 Remove the camera stabilizing cartons.

Caution Always remove the camera stabilizing cartons before connecting the camera.

Caution Do not place the camera on top of the XT Codec Unit. It can cause the system to overheat.

Step 2 Connect the camera to the DVI Input connector on the XT Codec Unit:

Figure 4-8 Connecting the optional XT Premium Camera for SCOPIA XT5000 Series



Note If you connect a camera to the DVI-I input, the system manages it as PC content.

Step 3 Connect the power supply cable to the DC IN connector on the camera.

Step 4 Plug the power supply cable into one of the power sockets on the wall.

Step 5 To enable controlling the camera using the XT Remote Control Unit, connect a crossed VISCA control cable to the RS-232C IN connector on the camera and to the RS-232C OUT connector on the main camera. For instructions, see "Connecting Cameras for Controlling the Optional XT Premium Camera with the XT Remote Control Unit" on page 33.

Step 6 Apply power to the camera.

Connecting Cameras for Controlling the Optional XT Premium Camera with the XT Remote Control Unit

The optional camera is supported for selected models only.

You can control the optional camera using the XT Remote Control Unit instead of the camera remote control. To do this, you must connect a VISCA Cross cable between the main and the optional cameras.

Note Please notice that the camera remote control is disabled when you connect the main and optional cameras using a VISCA Cross cable.

VISCA Control is a standard protocol to control PTZ Cameras. VISCA Control is implemented through the cable connection from the main camera to the CTRL CAM input of the XT Codec Unit. Through the VISCA interface, the XT Codec Unit sends commands that change the camera capture resolution, PTZ properties and more.

If the XT Codec Unit is installed in a cabinet, the XT Codec Unit IR receiver cannot function properly. In this case, the IR sensor of the main camera (not the optional camera) receives the IR signals coming from the XT Remote Control Unit and sends them to the XT Codec Unit through the VISCA interface. For this type of setup, enable the Always power on camera field in Administrator settings > I/O Inputs > Cameras.

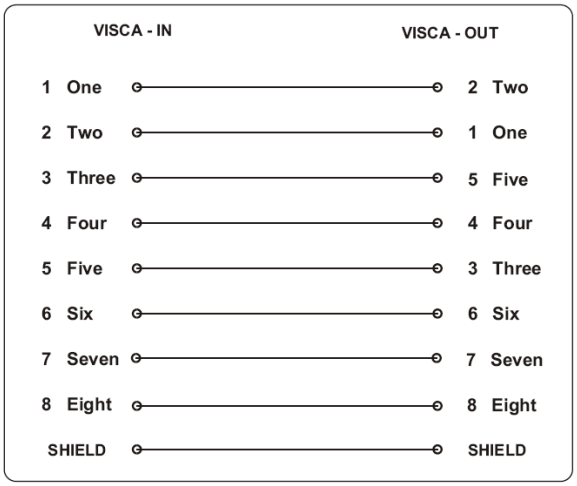
Procedure

Step 1 Buy a VISCA Cross cable from a third party, or create a cable of the required length if you're planning to position the optional camera far away from the XT Codec Unit

Measure the distance that separates the main camera from the optional camera, and cut the cable to the required length. The cable's maximal allowed length is 15m (50ft). Attach each end of the VISCA Cross cable to an 8-pin mini-DIN male connector

Figure 4-9 8-Pin Mini-DIN Connector

Figure 4-10 Pinout Diagram



Step 2 Connect the VISCA Cross cable from the main camera VISCA OUT to the optional camera VISCA IN.

Check that the SYSTEM SELECT switch on the back panel of the camera is set to 7.

Using a DVD or Blu-ray Player

You may connect a DVD or Blu-ray player to the HD CAM or DVI inputs of the XT Codec Unit.

Be aware that SCOPIA XT Series supports HDCP (High-bandwidth Digital Content Protection). As an HDCP Licensee, you may not use a digitally protected content on a device that copies HDCP content and you may not send digitally protected content to non-HDCP devices.

If the XT Codec Unit detects that non-compliant devices are attached to one of the HD CAM inputs, the video is locked.

Connecting Analog Video Equipment

The XT Codec Unit features digital inputs and outputs.

If the room configuration requires analog video inputs or outputs, use an external analog-to-digital (or vice-versa) video converter.

RADVISION has tested and certified these two video converters from Gefen:

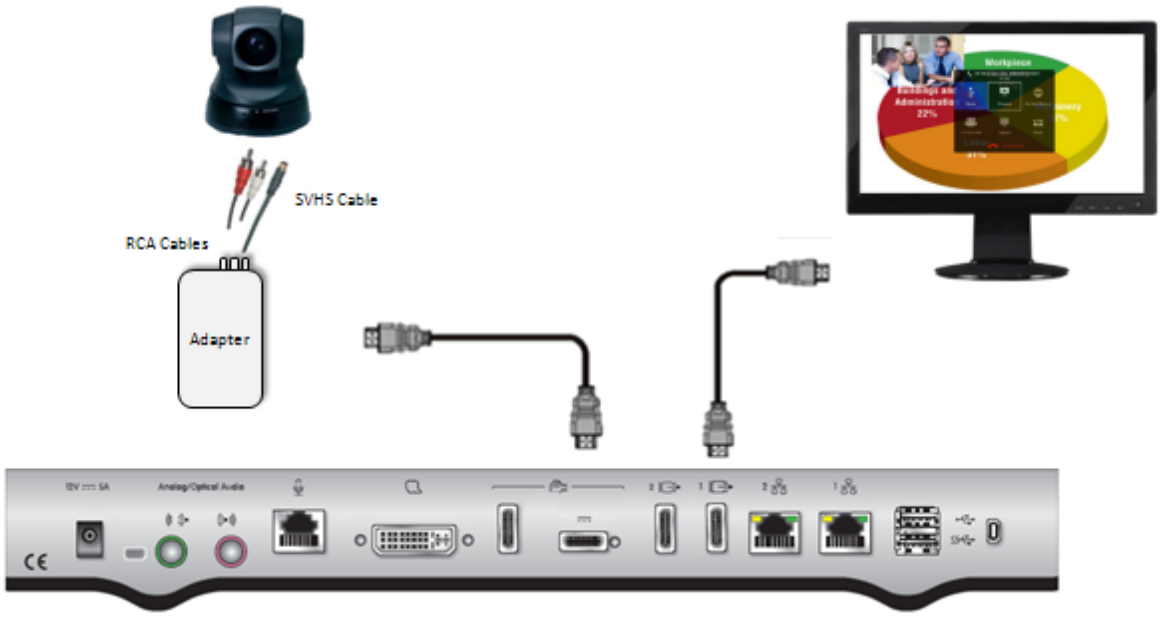
- GTV-COMPSVID-2-HDMIS, Composite/S-Video to HDMI Scaler
- GTV-HDMI-2-COMPSVIDS, HDMI to Composite/S-Video Scaler

See the company's site for documentation.

For example, you might need to connect an analog camera to the XT Codec Unit.

Connect the analog camera to HD CAM or DVI using the Composite/S-Video to HDMI Scaler.

Figure 4-11 Connecting an Analog Camera



Installing the Batteries of the XT Remote Control Unit

The XT Remote Control Unit requires CR2025 Lithium batteries (3V). When the XT Remote Control Unit's battery power is low, an icon appears on the GUI letting you know that you should replace the battery:

- Half-charged Battery
- Low Battery

Note When the Low Battery icon appears on the display, we recommend to change batteries immediately, to ensure proper functioning of the system.

For battery disposal information refer to the Safety Instructions leaflet.

Procedure

Step 1 Slide the battery compartment cover open.

Step 2 Put the battery in, making sure the battery is positioned correctly.

Step 3 Slide the battery compartment cover back until you hear a click.

5 Initial Configuration

After connecting the system and powering it, perform the initial configuration as described in these sections:

- Managing your SCOPIA XT Series from the Web Interface ..... page 36
- Maintaining the SCOPIA XT Series Locally from the Endpoint ..... page 41
- Registering and Enabling your SCOPIA XT Series license ..... page 48
- Performing Basic Configuration ..... page 53
- Setting Basic System Information ..... page 60
- Configuring Video Connections ..... page 65
- Configuring Audio Connections ..... page 74
- Configuring Network Settings ..... page 81
- Configuring Call Properties ..... page 100
- Securing Calls ..... page 105

Managing your SCOPIA XT Series from the Web Interface

You can configure and control the SCOPIA XT Series remotely using the web interface:

- Perform administrative tasks, such as:
  - Monitoring the status by configuring SNMP management
  - Backing up the endpoint's configuration files
- Place a call and position the camera (see *User Guide for SCOPIA XT Series* for details)
- Change settings, such as the interface language (see *Installation Guide for SCOPIA XT Series* and the *User Guide for SCOPIA XT Series* for details)

You can also configure the SCOPIA XT Series from the endpoint itself by first enabling advanced configuration, as described in "Maintaining the SCOPIA XT Series Locally from the Endpoint" on page 41.

The following topics are discussed in this section:

- Accessing SCOPIA XT Series Web Interface ..... page 37
- Configuring Remote Management on the SCOPIA XT Series ..... page 38
- Configuring Remote Upgrade Settings ..... page 40

Accessing SCOPIA XT Series Web Interface

This procedure describes how to access the SCOPIA XT Series web interface. The SCOPIA XT Series supports the following internet browsers:

- Internet Explorer version 7 or later
- Google Chrome version 11 or later
- Mozilla Firefox version 3.6 or later
- Apple Safari version 5 or later
- Opera version 11 or later

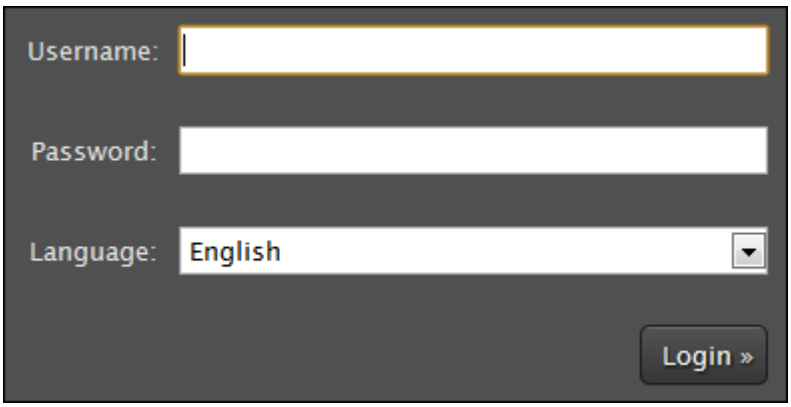
Procedure

Step 1 Open any of the supported internet browsers and enter the XT Codec Unit IP address.

For example, http://192.168.185.25/.

The SCOPIA XT Series login page opens.

Figure 5-1 Logging into the SCOPIA XT Series web interface



Step 2 Enter the username and password.

The default credentials for remote access are:

- Username - Admin
- Password - 1234

Note We recommend changing the default credentials after logging in for the first time, as described in the Administrator Guide for SCOPIA XT Series.

Step 3 (Optional) Select the web interface language from the Language list.

Step 4 Select Login.

Configuring Remote Management on the SCOPIA XT Series

Remote management on your SCOPIA XT Series is enabled by default. You can configure the SCOPIA XT Series so that it can be remotely managed from any computer in the network, or from a specific computer only.

To remotely upgrade the SCOPIA XT Series, you must also enable remote downloads, as described in "Configuring Remote Upgrade Settings" on page 40.

We strongly recommend that you change the default credentials first time you access the SCOPIA XT Series remotely, described as part of the procedure below.

See Administrator Guide for the SCOPIA XT Series for information on maintenance tasks to configure and manage your SCOPIA XT Series.

Before you begin

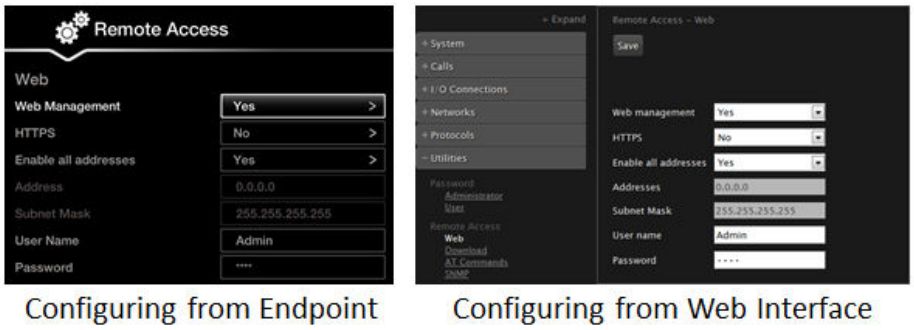
To configure the network, contact your network administrator.

Procedure

Step 1 Access the remote management settings, as follows:

- From the SCOPIA XT Series web interface, select Administrator Settings > Utilities > Remote Access > Web.
- From the endpoint, select Configure > Advanced > Utilities > Remote Access > Web from the Main menu.

Figure 5-2 Configuring remote management on SCOPIA XT Series



Configuring from Endpoint Configuring from Web Interface

Step 2 Set the fields as described in Table 5-1 on page 39.

Table 5-1 Configuring remote management on SCOPIA XT Series

Field Name	Description
Web management	Configure whether to allow remote management via the web interface, as follows: • Select Yes to enable remote management of the SCOPIA XT Series from its web interface. • Select No to disable remote management of the SCOPIA XT Series from its web interface.
HTTPS	Configure your web security settings, as follows: • Select Yes to enable secure HTTPS connection to the web when remotely managing the SCOPIA XT Series from its web interface. • Select No to disable secure HTTPS connection to the web. For example, if you remotely configure your endpoint only from within your network, it may not be necessary to use HTTPS.
Enable all addresses	Allow access to remote management for all or specific PCs, as follows: • Select Yes to enable access to SCOPIA XT Series from any IP address in a network. • Select No to allow access to specified computers only. If selected, you must also configure the Address and SubNet mask of each computer for which you want to enable access.
Address	This field is only relevant if you set the Enable all addresses field as No. Enter the IP address allowed to access SCOPIA XT Series.
Subnet mask	This field is only relevant if you set the Enable all addresses field as No. Enter the Subnet mask associated with the IP address.
User name	The default credentials for remote access are displayed: • username - Admin • password - 1234 Modify the default credentials here. We strongly recommend that you change the default credentials the first time you access the SCOPIA XT Series remotely.
Password	

Step 3 In the web interface, select Save.

Note In the endpoint interface, your changes are automatically saved.

Step 4 If you want to perform remote upgrades, you must first enable remote downloads, as described in "Configuring Remote Upgrade Settings".

Configuring Remote Upgrade Settings

In order to upgrade your SCOPIA XT Series from the web interface, remote upgrade must be enabled. This procedure describes how to:

- Enable/disable remote upgrades (it is enabled by default)
- Limit access to specific computers in the network. By default, all computers in the network can perform remote upgrades.

Before you begin

- Ensure that remote management is enabled. By default, it is. If you changed this configuration, make sure that you enable it, as described in "Configuring Remote Management on the SCOPIA XT Series" on page 38.
- Verify the IP address and the subnet mask associated with this IP address. Contact your network administrator for details if necessary.

Procedure

Step 1 Access the remote download settings, as follows:

- From the SCOPIA XT Series web interface, select Administrator Settings > Utilities > Remote Access > Download.
- From the endpoint's Main menu, select Configure > Advanced > Utilities > Remote Access > Download.

Figure 5-3 Enabling remote access to the SCOPIA XT Series

Step 2 Set the fields as described in Table 5-2 on page 41.

Table 5-2 Enabling remote upgrade

Field Name	Description
Download management	Configure whether to allow remotely downloading firmware or patches to the XT Codec Unit via a Windows PC upgrade program or SCOPIA Management, as follows: • Select Yes to enable remote downloads to the SCOPIA XT Series. • Select No to disable remote downloads to the SCOPIA XT Series.
Enable all addresses	Allow access to the XT Codec Unit from all or specific PCs or SCOPIA Management, as follows: • Select Yes to enable access to SCOPIA XT Series from any IP address in a network. • Select No to allow access to specified computers only. If selected, you must also configure the Address and SubNet mask of each computer for which you want to enable access.
Address	This field is only relevant if you set the Enable all addresses field as No. Enter the IP address of the PC (or PCs) allowed to access the XT Codec Unit.
Subnet mask	This field is only relevant if you set the Enable all addresses field as No. Enter the Subnet mask associated with the IP address or IP addresses specified above.

Step 3 In the web interface, select Save.

Note In the endpoint, your changes are automatically saved.

Step 4 To upgrade the SCOPIA XT Series, continue with one of the following procedures in the *Administrator Guide for SCOPIA XT Series*:

- Upgrading the Software Using a PC (ensures the latest version)
- Upgrading the SCOPIA XT Series Software Using a USB Drive

Maintaining the SCOPIA XT Series Locally from the Endpoint

To perform advanced configuration and maintain the SCOPIA XT Series from the endpoint itself, you must first perform this procedure to access advanced settings. For example, you can enable AT commands to manage the endpoint (as described in Administrator Guide for SCOPIA XT Series).

You can also perform advanced configuration from the web interface. See “Managing your SCOPIA XT Series from the Web Interface” on page 36 for details.

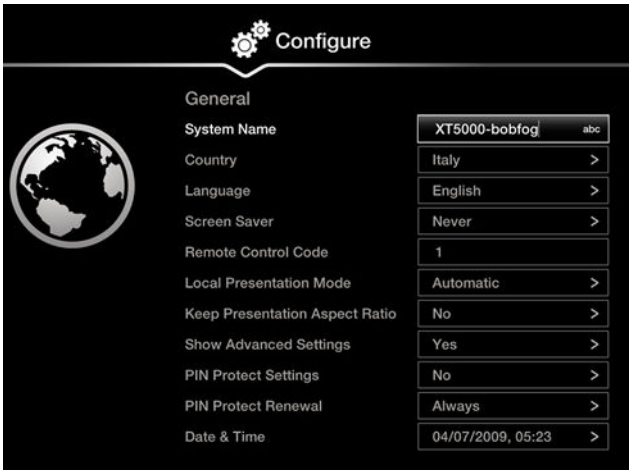
Before you begin

Ensure that you have the password to access the Advanced settings. The default password is 1234.

Procedure

Step 1 Access the endpoint's interface.

Step 2 Select Configure > General from the Main menu.



Step 3 Set Show Advanced Settings to Yes.

Step 4 Press the Back key on the XT Remote Control Unit.

The Advanced section now appears in the Configure screen.

Step 5 Select Configure > Advanced.

Step 6 Enter the password required to access the Advanced settings. The default password is 1234.

The Advanced screen appears.

Figure 5-4 Advanced configuration screen

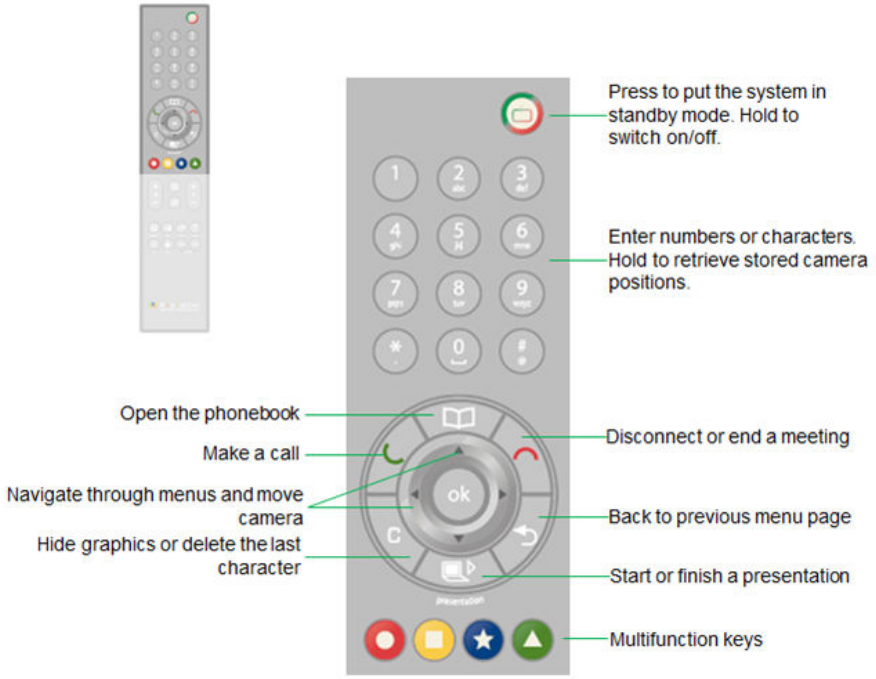
Step 7 We recommend changing the default password, as described in "Setting the Administrator or User PIN Code for the SCOPIA XT Series Endpoint" on page 46.

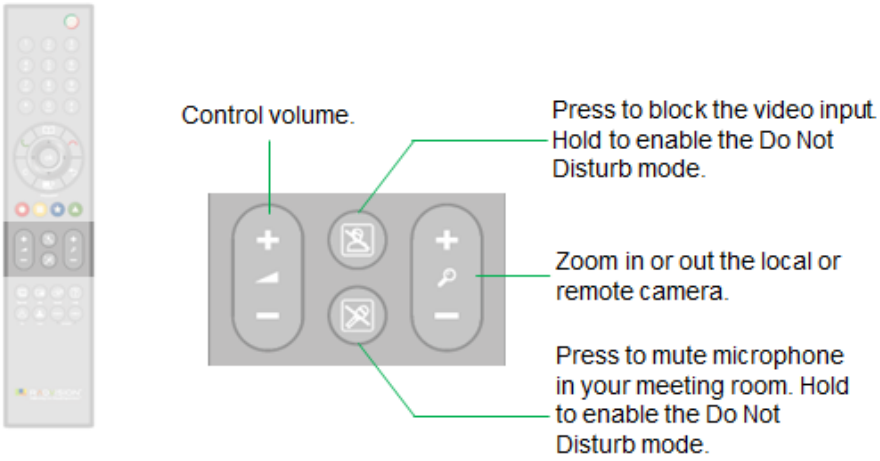
Using the XT Remote Control Unit

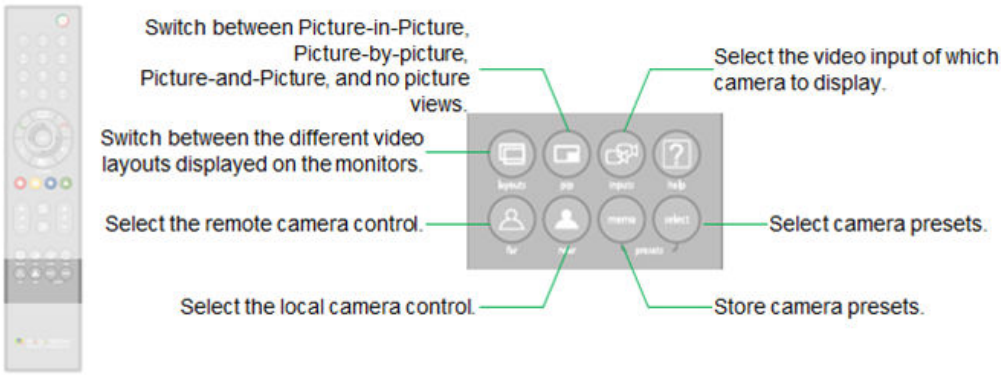
This section explains how to use the XT Remote Control Unit and lists the function of each key.

Figure 5-6 on page 43 describes the functions of the XT Remote Control Unit.

Figure 5-6 The XT Remote Control Unit


Press to put the system in standby mode. Hold to switch on/off.
Enter numbers or characters. Hold to retrieve stored camera positions.
Open the phonebook
Make a call
Navigate through menus and move camera
Hide graphics or delete the last character
Disconnect or end a meeting
Back to previous menu page
Start or finish a presentation
Multifunction keys
ok


Control volume.
Press to block the video input. Hold to enable the Do Not Disturb mode.
Zoom in or out the local or remote camera.
Press to mute microphone in your meeting room. Hold to enable the Do Not Disturb mode.


Switch between Picture-in-Picture, Picture-by-picture, Picture-and-Picture, and no picture views.
Select the video input of which camera to display.
Switch between the different video layouts displayed on the monitors.
Select the remote camera control.
Select camera presets.
Select the local camera control.
Store camera presets.

Use the XT Remote Control Unit to navigate through system menus, as follows:

- Scroll through menus and options using the arrow keys and pressing the ok key.

Note Use the ok key to select an item or a specific option, such as when choosing the interface language. If there are less than 5 options in a list, press ok repeatedly to scroll through the options.

- Use the XT Remote Control Unit keypad to enter letters and digits. The current input method is displayed in the field you are in:

The default input method is abc1: you must press the required character key on the XT Remote Control Unit repeatedly before entering a digit. To enter text in the XT Series interface, scroll to the input field and enter the required characters.

You can also select another input method that best suits the type of information you want to enter by pressing ok while the cursor is in the input field. The input methods are displayed. Press ok repeatedly to switch between ABC, abc, or 123 input methods.

Pairing an XT Remote Control Unit with a XT Codec Unit

Multiple XT Codec Units can be set up in the conference room and controlled with different XT Remote Control Units.

Each XT Remote Control Unit is dedicated to one XT Codec Unit by pairing them. This is done by configuring the same numeric code in your XT Remote Control Unit and the system software.

An XT Remote Control Unit is configured with code 01 by default.

Before you begin

Decide what numeric code you want to use for your monitor and the XT Codec Unit. You can choose any value between 1-99.

Procedure

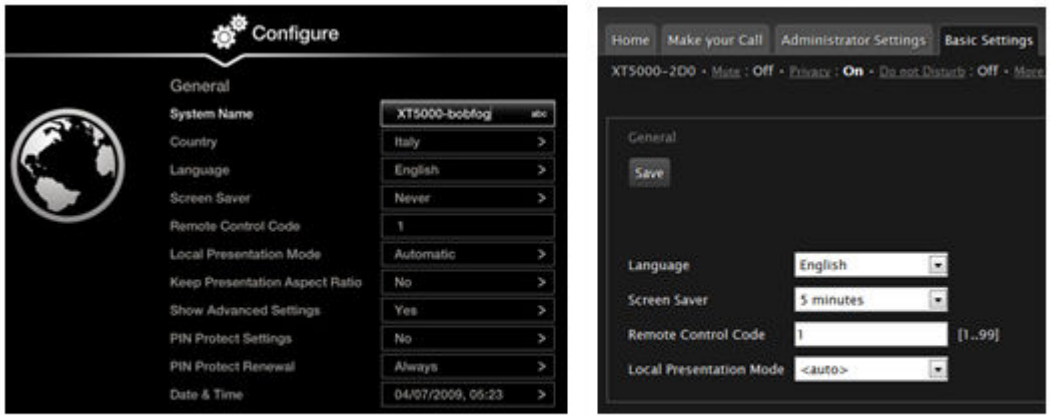
Step 1 Access the general settings, as follows:

- From the web interface, navigate to:

  Basic Settings > General.
- From the endpoint itself, access the Main menu and navigate to:

  Configure > General.

Figure 5-8 Setting the XT Remote Control Unit Code



Step 2 Enter the numeric code in the Remote control code field. You can choose any value between 1-99.

Step 3 In the web interface, select Save.

Note From the endpoint interface, it is saved automatically.

Step 4 On the XT Remote Control Unit, press the and simultaneously.

The On/Off key on the XT Remote Control Unit turns red.

Figure 5-9 Setting the code on the XT Remote Control Unit

Remote Control Code: 81
1 - Press 'red' and 'green' keys together or press '*' and '#'' keys together
2 - The light power on/off key becomes red
3 - Insert the remote control Code
OK

Step 5 Using the keypad, type the number you just entered in the Remote control code field.

Note You must always use two digits for a code. For example, to set the code to “1”, enter “01”.

The code of the XT Remote Control Unit is changed and the Remote Control icon with the new Remote Control code appear at the top-right corner of the screen:

Note The code and icon do not appear when the default code, 01, is used.

Step 6 Set the code and exit by doing one of the following:

- In the web interface, select Finish.
- In the endpoint, press OK.

Setting the Administrator or User PIN Code for the SCOPIA XT Series Endpoint

You can change the user or administrator PIN code, from either the endpoint or web interface:

- Administrator PIN: Modify the PIN code required to access and modify advanced settings, such as defining camera settings or enabling SNMP management.

  The default PIN is 1234. We recommend that you change the administrator PIN when starting the system configuration to prevent users from changing settings by mistake.

- User PIN: You can set a PIN code to access basic settings, such as the language displayed on the interface. If set, you are required to enter this code before viewing or modifying any basic settings.

  By default, you do not need to enter any PIN to access and modify basic settings.

To modify the web username and password for the SCOPIA XT Series, see Administrator Guide for SCOPIA XT Series.

Before you begin

If configuring from the endpoint interface, enable advanced configuration, as described in "Maintaining the SCOPIA XT Series Locally from the Endpoint" on page 41.

Procedure

Step 1 Access the PIN settings, as follows:

- From the endpoint, select Configure > Advanced > Utilities > PIN Protect Settings from the Main menu.

  You need to enter the PIN required to access the Advanced settings. The default PIN is 1234.
- From the web interface, select Administrator Settings > Utilities.

Figure 5-10 Modifying the administrator PIN

Configuring from Endpoint Configuring from Web Interface

Step 2 Modify the default PIN for accessing the Advanced settings, as follows:

a. Navigate to:

- From the endpoint, select Advanced Settings > Choose a new PIN Code.

  Enter the PIN code required to access the Advanced settings. The default PIN is 1234.
- From the web interface, select PIN > Administrator.

  Enter the PIN code required to access the Advanced settings in the Old PIN Code field. The default PIN is 1234.

b. Enter your new 4 digit PIN code.

Note In the web interface, re-enter your new PIN in the Confirm PIN Code field.

c. Save your changes as follows:

- From the endpoint, select Done.
- From the web interface, select Save.

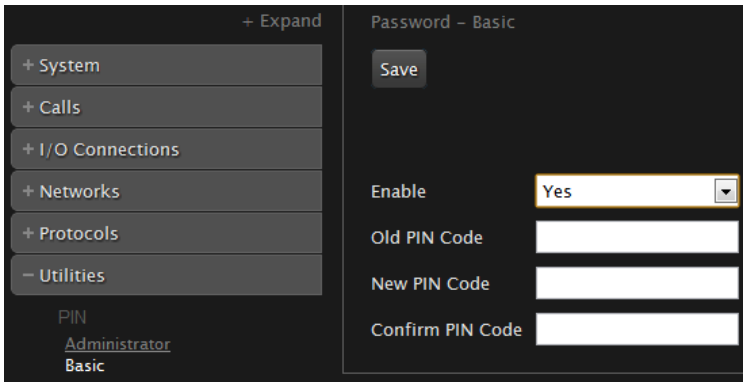
Use this PIN the next time you are accessing advanced settings.

Step 3 To set the PIN required to access and modify basic settings, do the following:

a. Navigate to:

- From the endpoint, select Utilities > PIN Protect Settings > Basic Settings.
- From the web interface, select Utilities > PIN > Basic, and set Enable to Yes.

Figure 5-11 Modifying the user PIN from the web interface



b. Enter your new 4 digit PIN code.

c. Save your changes as follows:

- From the endpoint, select Done.
- From the web interface, select Save.

Use this new PIN the next time you are required access basic settings.

Registering and Enabling your SCOPIA XT Series license

To activate the features of your XT Series endpoint, you first register the product to obtain your license key, and then enable the license. Follow the workflow described in this section.

Procedure

Step 1 Register your endpoint to activate your license key, as described in "Registering the SCOPIA XT Series to Obtain a License Key" on page 49.

Step 2 Enable the license from either the endpoint or the web interface:

- "Remotely Enabling the License from the Web Interface" on page 49
- "Enabling the License from the SCOPIA XT Series Endpoint" on page 51

Step 3 If you are enabling licenses with additional features, such as an embedded MCU or higher bandwidth, see “Installing and Enabling Licenses which Extend System Functionality” on page 52.

Registering the SCOPIA XT Series to Obtain a License Key

Register your XT Series to obtain your license key to activate the features of the XT Codec Unit, and receive a number of additional benefits:

- Notification of software updates and new features availability.
- Be the first to know about product support alerts.
- Access to RADVISION’s user-community.

Procedure

Step 1 Open the envelope that came with the XT Series.

Step 2 Locate the serial number and the product key in the letter inside the envelope. The serial number is printed on a label affixed at the back of the XT Codec Unit.

You can find the user code (and the serial number) by selecting Configure > About from the Main menu.

Step 3 On a computer, open a browser and navigate to http://www.radvision.com/XT5000.

Step 4 Complete the online registration form and enter the serial number (or the user code) AND the product key.

The web registration form returns an active license key.

Step 5 Write down the license key and keep it in a safe place for future use.

Step 6 Use the license key to enable the software.

Note You can obtain other license keys in the same way, when you need them to enable optional features in the XT Codec Unit, such as the embedded MCU. For details, see “Installing and Enabling Licenses which Extend System Functionality” on page 52.

Step 7 Continue with enabling the license:

- “Remotely Enabling the License from the Web Interface” on page 49
- “Enabling the License from the SCOPIA XT Series Endpoint” on page 51

Remotely Enabling the License from the Web Interface

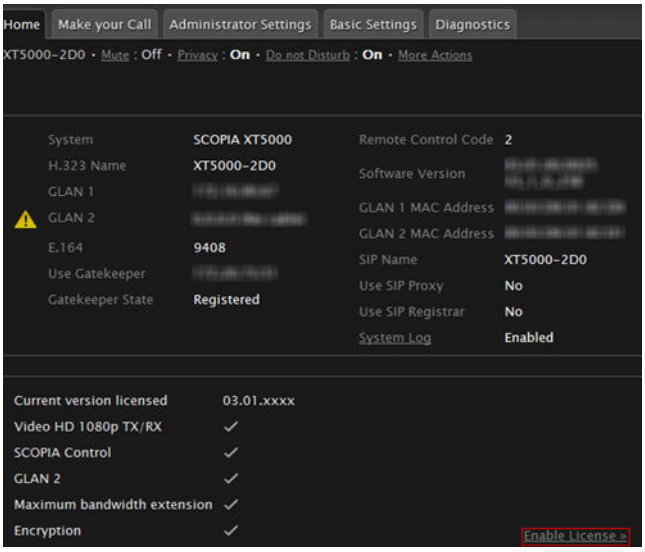
This procedure describes how to enable the software license of an XT Codec Unit remotely via the web interface. You can also enable the license from the endpoint's interface, as described in “Enabling the License from the SCOPIA XT Series Endpoint” on page 51.

Procedure

Step 1 Access the SCOPIA XT Series web interface.

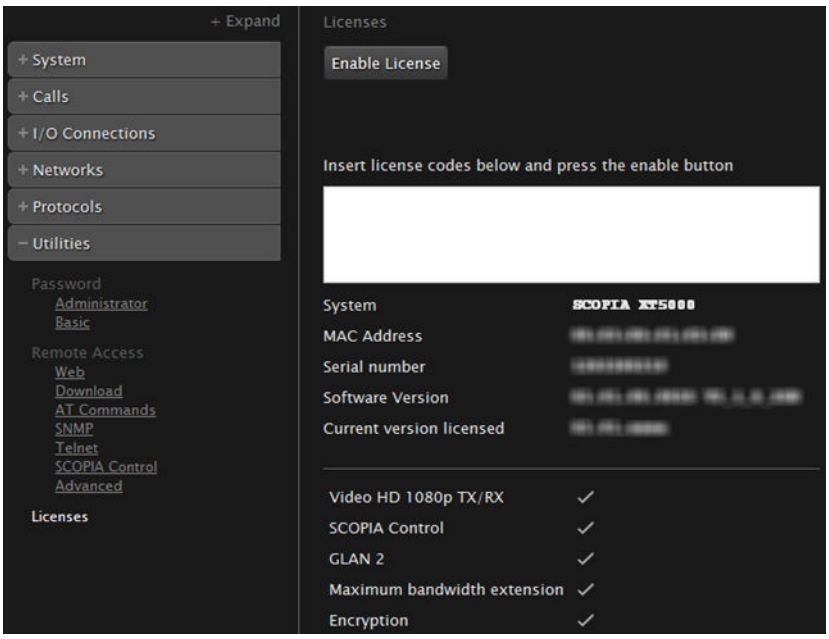
Step 2 From the Home page, select Enable License, or, navigate to Administrator Settings > Utilities > Licenses.

Figure 5-12 SCOPIA XT Series home page



The Licenses page appears.

Figure 5-13 Enabling the license from the web interface



Note The Web page shows the serial number (10-digit string) and user code. The user code corresponds to the system MAC address. These fields are not editable.

The serial number is also printed on a label affixed at the back of the XT Codec Unit.

Step 3 Enter the active license key you received when registering the product. You can also enter license keys for optional features.

Step 4 Select Enable license.

Note The license is automatically enabled. If you are enabling a second GLAN license option, the XT Codec Unit is restarted (see "Installing and Enabling Licenses which Extend System Functionality" on page 52 for details).

Enabling the License from the SCOPIA XT Series Endpoint

This procedure describes how to enable the software license of an XT Codec Unit via the endpoint's interface. You can also enable the license from the web interface, as described in "Remotely Enabling the License from the Web Interface" on page 49.

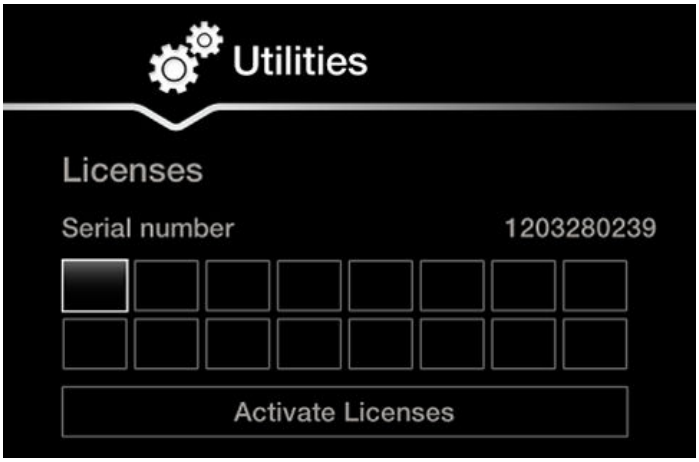
Procedure

Step 1 Access the SCOPIA XT Series's Main menu.

Step 2 Select Configure > Advanced > Utilities > Licenses.

The Licenses screen appears, displaying the serial number (10-digit string) and user code. The user code corresponds to the system MAC address. These fields are not editable.

Figure 5-14 Activating a license



Note The serial number is also printed on a label affixed at the back of the XT Codec Unit.

Step 3 Enter the license key you received when registering the product. You can also enter license keys for optional features.

Step 4 Select Activate Licenses.

Note The license is automatically enabled. If you are enabling a second GLAN license option, the XT Codec Unit is restarted (see "Installing and Enabling Licenses which Extend System Functionality" on page 52 for details).

Installing and Enabling Licenses which Extend System Functionality

You can purchase licenses to extend the functionality of the SCOPIA XT Series, such as enabling the SCOPIA XT Series to host its own videoconferences with an embedded MCU, or enhancing the bandwidth capabilities.

Table 5-3 on page 52 lists the various license options available for purchase to extend the system's functionality.

Table 5-3 SCOPIA XT Series Software Options

Reference	Description
Bandwidth and Network	
55111-00004 SCOPIA XT Series 12MBPS Option	Increases total bandwidth to 12Mbps
Audio	
55111-00048 Additional Audio Codec Pack	Adds G.728 and G.729A audio codecs.
MCU Options	
MCU basic license	Enables hosting videoconferences with up to 4 participants.
MCU extended license	Enables hosting videoconferences with up to 9 participants.
SCOPIA XT Desktop license	Enables participants to join a videoconference with just a PC, web browser or a mobile device.

This procedure details how to register your extended license purchase, to convert your new user code and option key into an updated license key.

Procedure

Step 1 Open the envelope that you obtained when you bought your license extension, or refer to the email you received after purchasing the license.

Step 2 Locate the option key in the letter. Locate the serial number on the XT Codec Unit or the user code you received with the purchase.

You can also retrieve the user code and serial number by selecting Configure > About from the Main menu.

Step 3 On a computer, open a browser and navigate to http://www.radvision.com/XT5000.

Step 4 Complete the online registration form and enter the serial number or the user code and the option key. The Web registration form returns a license key.

Step 5 Write down the license key and keep it in a safe place for future use.

Step 6 Use the license key to enable the software or the option you bought. For details, see:

- "Remotely Enabling the License from the Web Interface" on page 49
- "Enabling the License from the SCOPIA XT Series Endpoint" on page 51

Performing Basic Configuration

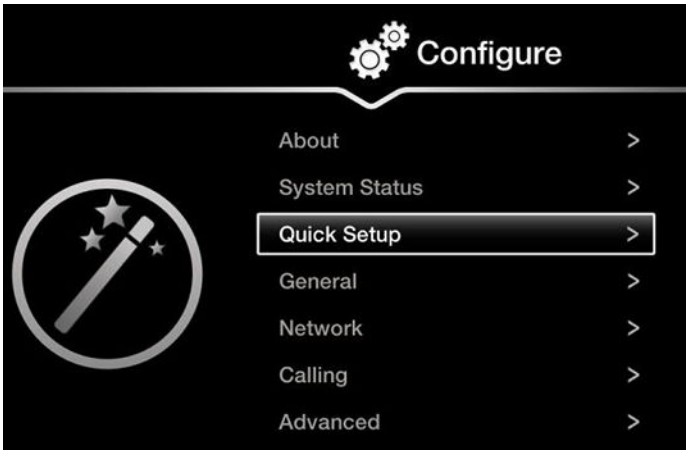
During this configuration you define some basic settings for your SCOPIA XT Series, such as the system's language, the name of this endpoint, and network settings.

Note Your system administrator might already have set these parameters for you. If your administrator set up PIN protection, you need the PIN number before continuing with the configuration.

In addition to fresh installations, you need to use the quick setup wizard after restoring default settings and re-installing software.

The quick setup wizard guides you through these basic configuration tasks:

Figure 5-15 Accessing the Quick Setup



- Setting the System Name and Language ..... page 54
- Adjusting the Image Position ..... page 55

- Configuring Network Settings ..... page 57
- Configuring Gatekeeper Settings ..... page 59

The tasks appear in this section in the order they are presented in the quick setup wizard.

The quick setup wizard automatically appears when you turn the Quick SetupXT Codec Unit on for the first time. If the quick setup wizard is not displayed automatically, select Configure > Quick Setup from the Main Menu.

Setting the System Name and Language

You can select the name of your XT Codec Unit, to be displayed on the monitors participating in the videoconference call (for example: Hong-Kong, or 9th-Floor-Room, or NY-Office).

You can also select the country in which the system is located and the language in which the system menus are displayed.

Before you begin

Turn on the SCOPIA XT Series unit to start the quick setup wizard.

or

If the quick setup wizard is not displayed automatically, select Configure > Quick Setup from the Main menu (Figure 5-15 on page 53).

Note After initial setup, you can modify these settings by selecting Configure > General from the Main menu.

Procedure

Step 1 Enter the name of the SCOPIA XT Series in the System Name field using the alphanumeric keys of the XT Remote Control Unit (for more information, see "Using the XT Remote Control Unit" on page 43).

Figure 5-16 Setting Country and Language

Step 2 Select the required country from the Country list using the arrow keys and press ok.

The system menu and the Language field automatically change to the language used in the selected country.

Step 3 If you want to change the language of the system menus, select Language and press ok. The list of languages is displayed. Scroll to the preferred language and press ok.

Step 4 Continue with one of the following:

- To adjust the image on your monitor, select Next and continue with "Adjusting the Image Position" on page 55.
- To exit the quick setup wizard, select Close.

Adjusting the Image Position

If your monitor does not center the image correctly, perform this procedure.

Before you begin

This procedure is performed as part of the Quick Setup Wizard, after "Setting the System Name and Language" on page 54.

Start the Quick Setup Wizard by selecting Configure > Quick Setup from the Main menu.

Note This can be done from the endpoint itself only.

Procedure

Step 1 Examine the image on the monitor to decide if you need to adjust the image position.

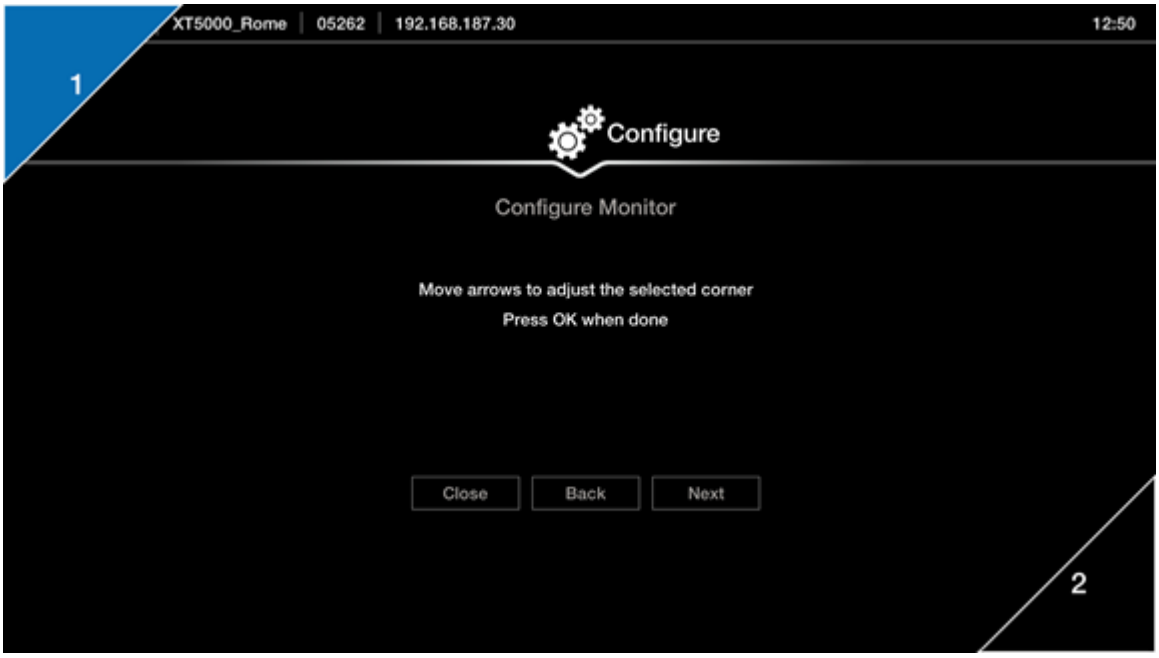
The triangles in the top left corner and bottom right corner must be fully visible so that the white border of the triangle is fully visible on all sides.

If the image is centered correctly, skip this procedure and select Next.

Figure 5-17 Examining the image position

Step 2 Press 1 to align the top left corner.

Figure 5-18 Adjusting the image position



Step 3 Use the arrow keys on the XT Remote Control Unit to position the image, and then press OK.

Step 4 Press 2 to align the bottom right corner.

Step 5 Use the arrow keys on the XT Remote Control Unit to position the image, and then press OK.

Step 6 Continue with one of the following:

- To configure network settings, select Next and continue with "Configuring Network Settings" on page 57.
- To exit the quick setup wizard, select Close.

Configuring Network Settings

This procedure describes how to set up the network settings and the IP address the system uses for placing a call.

Consult with your network administrator to configure these fields.

Note If you are modifying the network settings after initial setup, navigate to Configure > Network > GLAN 1 from the Main menu.

Before you begin

This procedure is performed as part of the Quick Setup Wizard, after "Adjusting the Image Position" on page 55.

Start the Quick Setup Wizard by selecting Configure > Quick Setup from the Main menu.

Procedure

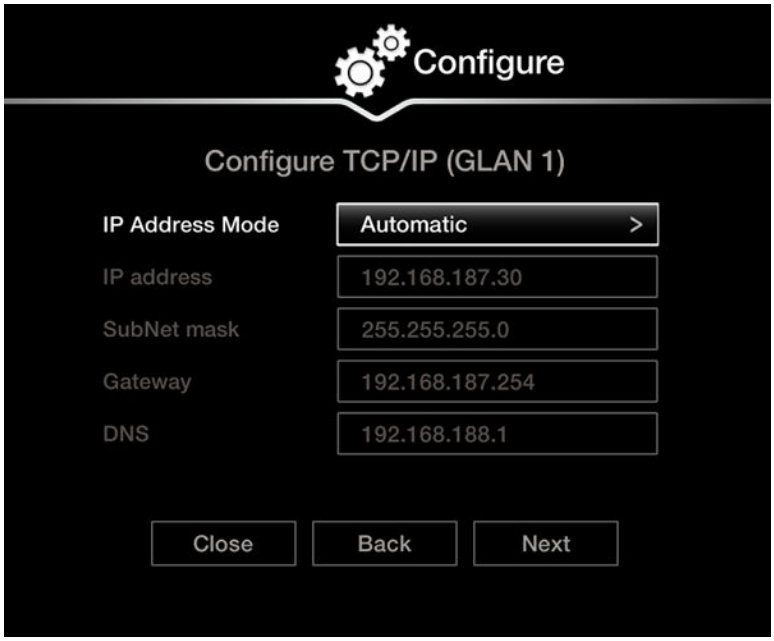
Step 1 Press ok and select one of the following from the IP Address Mode list:

- Automatic: (Default) Select this option if the system gets its IP address automatically (using DCHP).

  The IP address, SubNet mask, Gateway, and DNS fields appear as read-only. See Table 5-4 on page 59 for a description of these fields.

- Manual: Select this option if you require a static public IP address. This is required, for example, if the XT5000 Series is connected directly to the Internet, without any address translation. Enter the fields as described in Table 5-4 on page 59.

Figure 5-19 Defining IP Settings



Step 2 If you selected Manual, configure the following, as instructed by the system administrator:

Table 5-4 Configuring IP addresses

Field Name	Description
IP address	Enter the system static IP address here, used for accessing and managing the system. If the system retrieves its IP address automatically, this field displays the IP address assigned to the system.
SubNet mask	Enter the subnet mask associated with the IP address. If the system retrieves its IP address automatically, this field displays the subnet mask that has been assigned.
Gateway	Enter the default gateway static IP address. The gateway is used to route information between two subnets, for example, between the headquarters and a partner site. If the system gets its IP address automatically, this field displays the gateway IP address assigned to the system.
DNS	Enter the DNS server IP address. The DNS server in your network resolves domain names in your network and translates them into IP addresses. If the system gets its IP address automatically, this field displays the assigned DNS server IP address.

Step 3 Continue with one of the following:

- To configure your gatekeeper's settings, select Next and continue with "Configuring Gatekeeper Settings" on page 59.
- To exit the quick setup wizard, select Close.

Configuring Gatekeeper Settings

Gatekeepers are used to manage and route endpoint-initiated calls and point-to-point calls (H.323). If your SCOPIA XT Series works in conjunction with a gatekeeper, configure gatekeeper-related settings as described in this procedure.

This procedure completes the basic system configuration.

Before you begin

This procedure is performed as part of the basic configuration after "Configuring Network Settings" on page 57. Consult with your network administrator to configure these fields.

Start the Quick Setup Wizard by selecting Configure > Quick Setup from the Main menu.

Note If you are modifying these settings after initial setup, navigate to Configure > Network > H.323 from the Main menu.

Procedure

Step 1 Set the Use Gatekeeper list to Yes.

Figure 5-20 Gatekeeper settings

Step 2 Set the Mode list to Manual.

Note If the gatekeeper is configured to be automatically detected by endpoints, select Automatic (depends on the type of gatekeeper). Consult the network administrator.

Step 3 Enter the IP address of the gatekeeper in the Gatekeeper IP address field.

Step 4 Enter the H.323 number required to dial the XT Codec Unit in the E.164 field.

Step 5 Select Done.

The basic configuration of your SCOPIA XT Series is complete.

Setting Basic System Information

There are a number of settings to ensure the system is working with the correct XT Remote Control Unit, and that the correct local time and date is properly configured:

- Setting Date and Time ..... page 61
- Setting the Time Zone ..... page 62
- Setting Regional Information ..... page 62
- Configuring the Screen Saver to Start Automatically ..... page 63

Setting Date and Time

You can set the date and time from either the endpoint or the web interface.

Procedure

Step 1 Access the date and time settings as follows:

- From the web interface, select Administrator Settings > System > Date & Time > General.
- From the endpoint, select Configure > Advanced > System > Date & Time > General.

  You need to enter the PIN required to access the Advanced settings. The default PIN is 1234.

Step 2 Set the date and time, as described in Table 5-5 on page 61.

Note If you configure set Internet time to Yes , you cannot modify the date and time fields.

Table 5-5 Configuring date and time settings

Field Name	Description
Day	Enter the date.
Month	Enter the month.
Year	Enter the year.
Hour	Enter the hour.
Minutes	Enter the minutes.
Internet time	Select Yes to synchronize the system clock with the network clock, thus allowing you to align devices connected to the Internet using NTP.
Use Default NTP Server	If your organization uses an external Network Time Protocol (NTP) server for synchronizing the system clock, select Yes. If your organization uses one or two internal NTP servers for that purpose, select No and enter the server IP address in fields Server 1 and/or Server 2.
Refresh time	Indicates the period of time after which the system contacts the NTP server to refresh the clock.

Step 3 In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Setting the Time Zone

You can set the time zone from your endpoint or the SCOPIA XT Series web interface.

Procedure

Step 1 Access the time zone settings as follows:

- From the web interface, select Administrator Settings > System > Date & Time > Time Zone.
- From the endpoint, select Configure > Advanced > System > Date & Time > Time Zone.

  You need to enter the PIN required to access the Advanced settings. The default PIN is 1234.

Step 2 Configure settings as described in Table 5-6 on page 62.

Table 5-6 Configuring time zone related settings

Field Name	Description
Select the time zone to which the system belongs.	
Enable daylight time	Set the daylight or summer time field to Yes or No according to the current daylight-saving status of your time zone.
Start (dd/mm)	Set the day and month to indicate when daylight saving times start.
Stop (dd/mm)	Set the day and month to indicate when daylight saving times end.

Step 3 In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Setting Regional Information

You must configure the region-related settings: the country and language. You also need to configure audio coding and video frequency, because your video network depends on the local infrastructure. The system suggests the optimal values for audio coding and video frequency when you enter the country value.

You may have set some of these fields in the Quick Setup screens as they belong to the minimal setting requirements (for details, see "Performing Basic Configuration" on page 53). You can modify these settings at any time from the endpoint or the web interface.

Procedure

Step 1 Access the SCOPIA XT Series web interface.

Step 2 Select Administrator Settings.

Step 3 Select System > Location > General on the left.

Step 4 Set settings as described in Table 5-7 on page 63.

Table 5-7 Configuring regional information

Field Name	Description
System name	Enter the name that will appear in the local endpoint GUI and in the remote endpoint GUI (if connected).
Country	Select the country in which the local system is located. Once the country is selected, the other fields are populated automatically.
Language	Select the language used in the GUI.
Audio coding	Select the European or US coding.
Video frequency	The video refresh frequency depends on the country, and may assume the values of 50Hz or 60Hz. The user may select the video frequency automatically or manually. If set to automatic, the system assigns the value depending upon the selected country. In Japan, the frequency depends on the country area (east or west); thus in Japan the system administrator must select manually the correct value related to the geographic location.

Step 5 Select Save.

Configuring the Screen Saver to Start Automatically

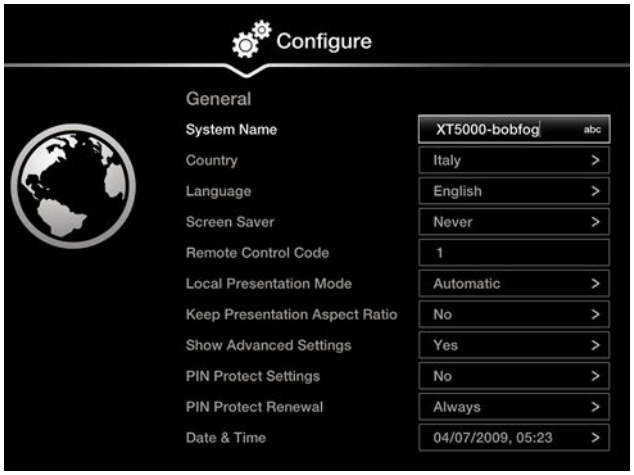
The screen saver helps to protect your monitor from burn-in without switching it off. This can be useful in situations when you stop using your SCOPIA XT Series for a relatively short period of time.

Procedure

Step 1 Access the screen saver settings as follows:

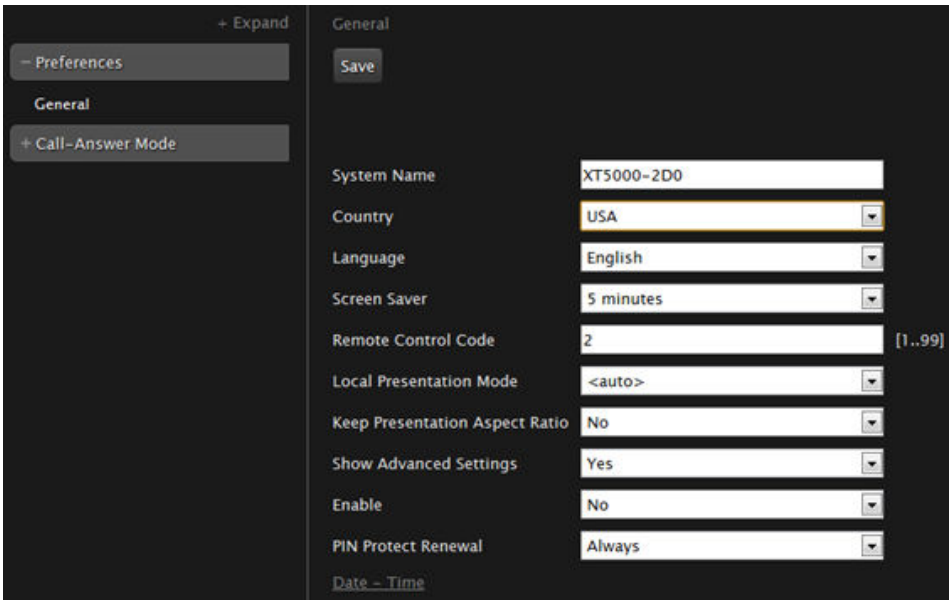
- From the endpoint, select Configure > General.

Figure 5-21 Setting screen saver settings from the endpoint



- From the web interface, select the Basic Settings tab.

Figure 5-22 Setting screen saver settings from the web interface



Step 2 Select Yes from the Automatic screensaver list.

Step 3 Set the time after which the screen saver automatically starts on the display in the Minutes field.

Step 4 In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Configuring Video Connections

There are a number of settings which affect the way the camera accepts input and the way the monitors display video.

- Configuring the Camera Connection ..... page 65
- Configuring the Computer Connection ..... page 68
- Setting up the Monitor Display Modes ..... page 69

Configuring the Camera Connection

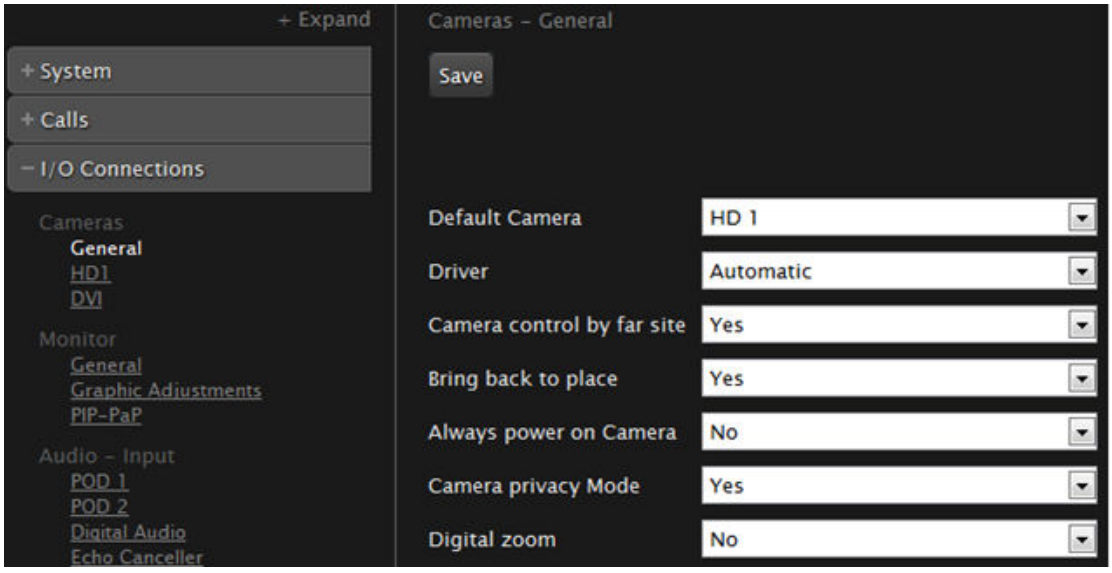
You configure the connection depending on the type of camera and its functionality.

Procedure

Step 1 Access the camera settings as follows:

- From the endpoint, select Configure > Advanced > I/O connections > Cameras > General.
- From the web interface, select Administrator settings > I/O connections > Cameras > General.

Figure 5-23 Configuring general camera settings from the web interface



Step 2 Configure settings on the General page as described in Table 5-8 on page 66.

Table 5-8 Configuring general camera settings

Field Name	Description
Default camera	Specifies to which input of the XT Codec Unit the main camera is connected. Typically it is HD CAM 1. The default camera is automatically activated when the system powers up.
Driver	Sets the camera driver for the connected camera. Automatic allows automatic identification of the correct driver at system start up. Automatic detection is available only if the camera is connected using a VISCA Cross cable.
Camera control by far site	Enables/disable control of my camera(s) by the remote endpoint.
Bring back to place	If enabled, the system stores camera positions when the camera is switched off, and retrieves this position the next time the camera is switched on.
Always power on camera	Ensures the camera does not automatically power off, enabling the system to be switched on via remote control, if the camera has an infra-red receiver.
Camera privacy mode	Places the camera in a sleep position, with the lens facing down and to the left, when the system is in screen saver or privacy mode (this is the default setting).
Digital zoom	Enables digital zoom for cameras equipped with this feature.

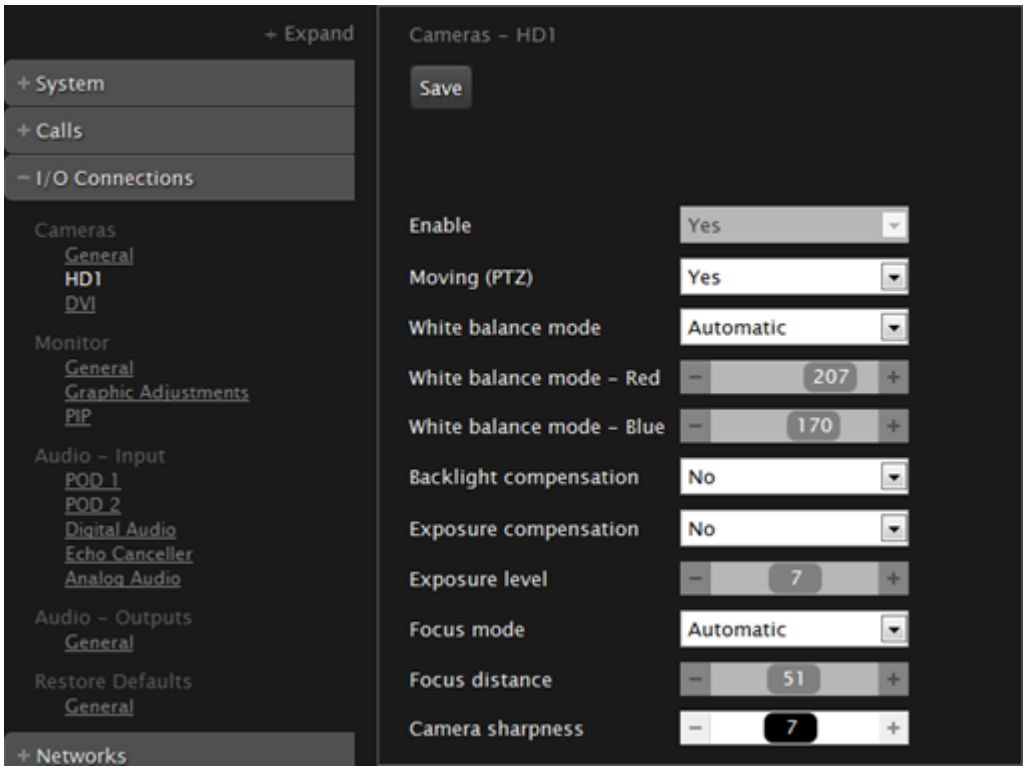
Step 3 In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Step 4 To configure the main camera connection: configure settings on the HD1 page as described in Table 5-9 on page 68.

a. Select HD1 under Cameras.

Figure 5-24 Configuring the main camera settings from the web interface



b. Configure these settings, as described in Table 5-9 on page 68.

Note An optional camera is available for selected models only.

Table 5-9 Configuring advanced camera settings

Field Name	Description
Enable	This field can be modified for DVI only. Enable for the optional camera.
Moving (PTZ)	If necessary, enable the camera pan, tilt and zoom functionality.
White balance mode	In case the lighting in the room is not sufficient, you can make adjustments to the colors of the image sent by the camera. • To allow the camera to automatically adjusts colors to room lighting, set to Automatic. • To calibrate color temperature so that the image is neither blue nor red color prevails, set to Customize. • To calibrate colors manually, set to Manual.
Backlight compensation	If there is excessive backlighting, select this option to filter out some of the backlighting.
Exposure compensation	In case the lighting in the room is excessive, enable and define exposure compensation to filter out some of the lighting.
Focus mode	Set the camera focus: • To set the camera focus automatically, select Automatic. • To adjust the camera focus manually, select Manual, and then set the distance from the cameras to the table.

c. In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Step 5 If necessary, configure the optional camera connection:

Note An optional camera is available for selected models only.

a. Select DVI under Cameras.

b. Configure settings as described in Table 5-9 on page 68.

c. In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Configuring the Computer Connection

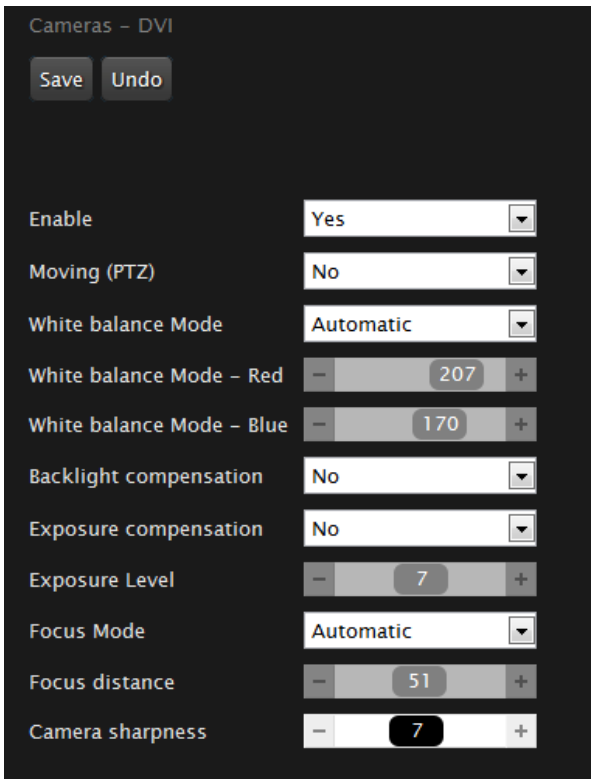
Perform this procedure if you configure a device connected to a computer to your SCOPIA XT Series.

Procedure

Step 1 Access the DVI settings as follows:

- From the endpoint interface, select Configure > Advanced > I/O connections > Cameras > DVI.
- From the web interface, select Administrator settings > I/O connections > Cameras > DVI.

Figure 5-25 Configuring the computer settings from the web interface



Step 2 Select Yes from the Enable list to enable the DVI input.

Step 3 In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Setting up the Monitor Display Modes

The monitor can be configured from the SCOPIA XT Series by setting its resolution, and configuring the system to work with a single monitor or two monitors side-by-side.

Some monitors crop the edges of the image shown in their displays. If this is the case, you need to adjust the way the image appears as described in this procedure.

Note You can return to the Default Auto settings at any time by pressing and holding down the Layout key and then pressing the 0 key.

You can configure your monitor so that the user sees two or three video streams on the monitor(s): local video, remote video, and a data presentation.

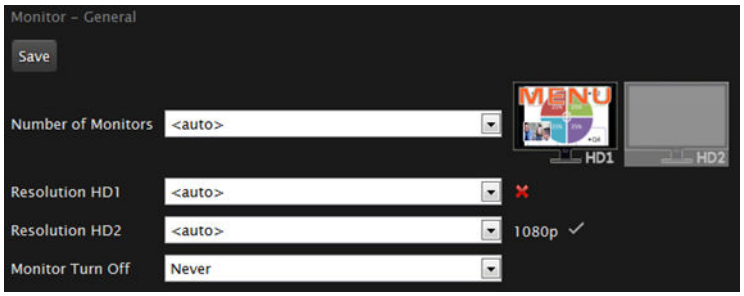
- PIP (Picture In Picture) displays two overlapped images on one monitor, where the remote image is in full-screen format, and local image is in a smaller, overlapped window.
- PaP (Picture and Picture) displays two images side-by-side on one monitor, where the remote image and the local image have the same size, emulating a dual-monitor setup.
- PoP (Picture out Picture) displays two images side-by-side on one monitor, where the remote image is larger than the local image.

Procedure

Step 1 Access the general monitor settings as follows:

- From the endpoint, select Configure > Advanced > I/O connections > Monitor > General.
- From the web interface, select Administrator settings > I/O connections > Monitor > General.

Figure 5-26 Configuring the general monitor settings from the web interface



Step 2 Configure the settings as described in Table 5-10 on page 71.

Table 5-10 Configuring general monitor settings

Field Name	Description
Number of monitors	Specifies the number of monitors connected to the XT Codec Unit. In a dual configuration, the selected layout is depicted as two pictures representing the two connected displays. • <auto> - The system automatically detects the number of connected monitors (recommended). • HD1/HD2 - When a single monitor is connected to the HD1/HD2 output socket of the XT Codec Unit. If two monitors are connected with this setting, the second monitor will appear as a black screen. • HD1 (Menu & Video Rx) + HD2 (Present) - Dual monitor configuration, where the system menus and remote video are displayed on the main monitor, while PC content is shown on the auxiliary monitor. This is the default mode with two connected monitors set to <auto>. • HD1 (Menu & Present) + HD2 (Video Rx) - Dual monitor configuration, where the system menus and PC content are displayed on the main monitor, while remote video is shown on the auxiliary monitor. • HD1 (Present) + HD2 (Menu & Video Rx) - Dual monitor configuration, where the system menus and Remote Video are displayed on the auxiliary monitor, while PC content is shown on the main monitor. • HD1 (Video Rx) + HD2 (Menu & Present) - Dual monitor configuration, where the system menus and PC content are displayed on the auxiliary monitor, while remote video is shown on the main monitor.
Resolution HD1/HD2	Defines how the XT Codec Unit sets the resolution of the connected main monitor (HD1)/auxiliary monitor (HD2). • <auto> - Sets 1080p as the default settings for both monitors. • 1080p - If the monitor supports 1080p, this setting will always keep the monitor resolution at 1080p. • 720p - If the monitor supports 720p, this setting will always keep the monitor resolution at 720p, even if the received resolution is higher.

Step 3 In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Step 4 If necessary, adjust the way the image appears on the monitor:

a. Select the monitor requiring adjustment (HD1 or HD2).

b. Select Graphic adjustment under Monitor.

c. Select your preferred image view mode:

- Menu
- Menu, presentation (local and received). This is the default setting.

d. Drag the sliders to the required sizes until the menu or presentation borders are visible on the monitor.

Note You can also adjust the image for the monitor displaying the menu, in the quick setup wizard as described in "Adjusting the Image Position" on page 55.

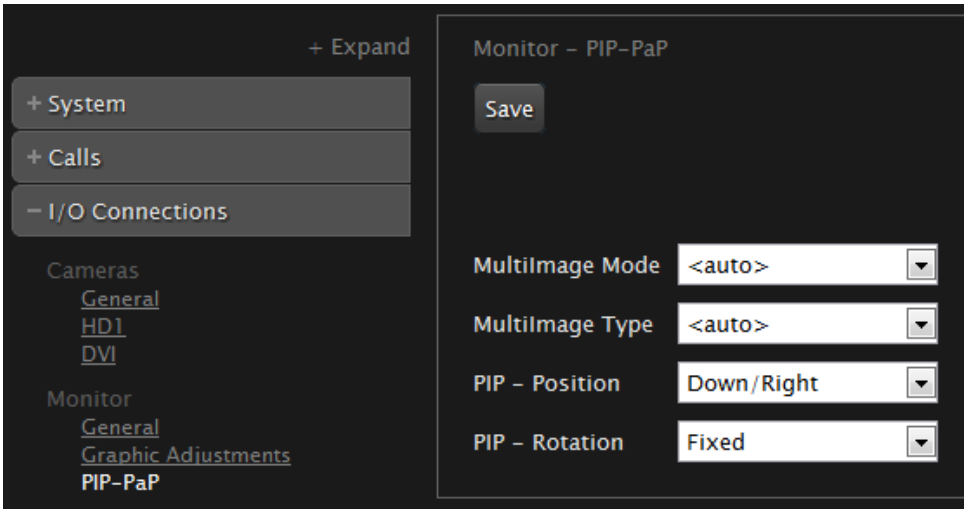
e. In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Step 5 If necessary, configure the monitor to show more than one video stream:

a. Select PIP-PaP under Monitor.

Figure 5-27 Setting PIP-PaP option



b. Configure the option as described in Table 5-11 on page 73.

Table 5-11 Configuring PIP-PaP option

Field Name	Description
Multi Image Mode	Sets PIP and PaP activation, depending on the number of video streams available. Multi Image Type must be set to auto. • auto - PIP and PaP are enabled only when needed. This occurs when the number of video streams is greater than the number of available monitors. The order of the video streams is set automatically, with precedence to the remote video streams. • On - PIP and PaP are enabled if at least two video streams are available. If there is one video stream, the image shows in full screen (for example, when the system is not connected). • Off - PIP and PaP are disabled. **Note** When you are using two monitors, PIP can be forced only if there are at least three different video streams.
PIP - Position	Sets the position of the small image on the monitor: upper left, upper right, lower left, lower right.
PIP - Rotation	Enables/disables image rotation. This setting also controls the direction in which the image rotates. Pressing pip will activate image rotation (if enabled). • Fixed - The image does not change position. • Clockwise - Image rotates clockwise to change position. • Counterclockwise - Image rotates counterclockwise to change position.
Multi Image Type	Sets the PIP and PaP functions. • auto - Both PIP, PaP and PoP functions are enabled. Press pip to switch between PIP, PaP and PoP. • PIP - Only PIP is enabled. • PaP - Only PaP is enabled. • PoP - Only PoP is enabled.

c. In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Configuring Audio Connections

Part of the initial configuration is ensuring the microphones and speakers are set up correctly, and that there is no noticeable echo across connections in a call or conference. The settings are detailed in these sections:

- Configuring the Microphone Pod ..... page 74
- Configuring Analog Audio Connections ..... page 75
- Configuring the Echo Canceller ..... page 78
- Configuring Audio Outputs ..... page 79

Configuring the Microphone Pod

The Microphone Pod puts the focus on the speaker while isolating background noise. In larger rooms, use a second Microphone Pod and configure it in the POD2 page.

Note A second Microphone Pod is only available for selected models.

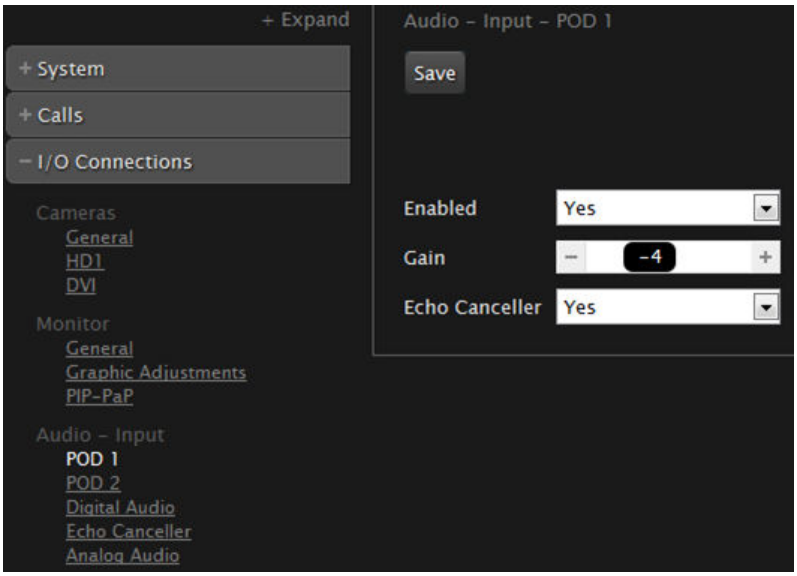
Procedure

Step 1 Access the Microphone Pod settings:

- From the endpoint interface, select Configure > Advanced > I/O connections > Audio - Input.
- From the web interface, select Administrator settings > I/O connections > Audio - Input.

Step 2 Select POD1 or POD2.

Figure 5-28 Configuring the Microphone Pod settings from the web interface



Step 3 Set the fields as described in Table 5-12 on page 75.

Table 5-12 Configuring the Microphone Pod connection

Field Name	Description
Enabled	Enables/disables the Microphone Pod.
Gain	Use the slider to adjust the fixed Gain Control, setting the voice signal to the desired level. The AGC reduces the volume if the audio is strong and raises the volume if the audio is weak.
Echo canceller	Enable the echo canceller when working with an external microphone system that does not contain echo cancellation. Disable this setting when working with an external mixer that handles echo cancellation. If enabled check the field settings in "Configuring the Echo Canceller" on page 78, and configure if required.

Step 4 In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Configuring Analog Audio Connections

You must perform this procedure if you are using the analog audio connections:

Figure 5-29 The analog/optical audio port on the XT Series

Procedure

Step 1 Access the Microphone Pod settings:

- From the endpoint interface, select Configure > Advanced > I/O connections > Audio - Input > Analog.
- From the web interface, select Administrator settings > I/O connections > Audio - Input > Analog.

Step 2 Set the fields as required.

Field Name	Description
Enabled	Enables/disables this audio input.
Gain	Set the voice signal to the desired level by using the slider.
Echo canceller	Enable the echo canceller when working with an external microphone system that does not contain echo cancellation. To configure the echo cancellation settings, see "Configuring the Echo Canceller" on page 78. To hear the audio also locally, see "Configuring Audio Outputs" on page 79. Disable this setting if you have an external mixer that handles its own echo cancellation.
Audio selection	Choose one of these settings: • Analog associated with DVI - Select this option when a PC is connected to the XT Codec Unit's DVI-I Input port and you want to hear the PC's audio only when you selected the DVI video input. • Analog always - The audio coming from analog connection is always selected, regardless of which video is selected.
Type	In a standalone microphone, power and audio can be supplied over the same wires; power is drawn from an external source called phantom power. A built-in microphone, such as a in a computer, does not need phantom power since it gets power from the device itself. When configuring these settings, verify the audio equipment connection method: a balanced line reduces external noise interference and allows to use very long cables. Choose one of these settings: • Line - Select this option for an analog audio input without phantom power. Then set the Mode field to Stereo or Mono input. • Microphone - Select this option if the analog audio is coming from an analog balanced microphone with phantom power turned on.
Mode	You can configure this field if you selected the Line setting. Choose one of these options: • Stereo - The input is an L/R stereo unbalanced line without phantom power. • Mono - The input is a mono balanced line without phantom power.

Step 3 In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Step 4 (Optional) If Analog is associated with DVI, verify the DVI input is enabled when in a call, as follows:

- From the endpoint interface, select Configure > Advanced > I/O Connections > Cameras > DVI. Press to start data sharing.
- From the web interface, select Administrator Settings > I/O Connections > Cameras > DVI. Press to start data sharing.

Configuring the Echo Canceller

If your SCOPIA XT Series works with an external microphone system that does not contain echo cancellation, perform this procedure to cancel echo.

Before you begin

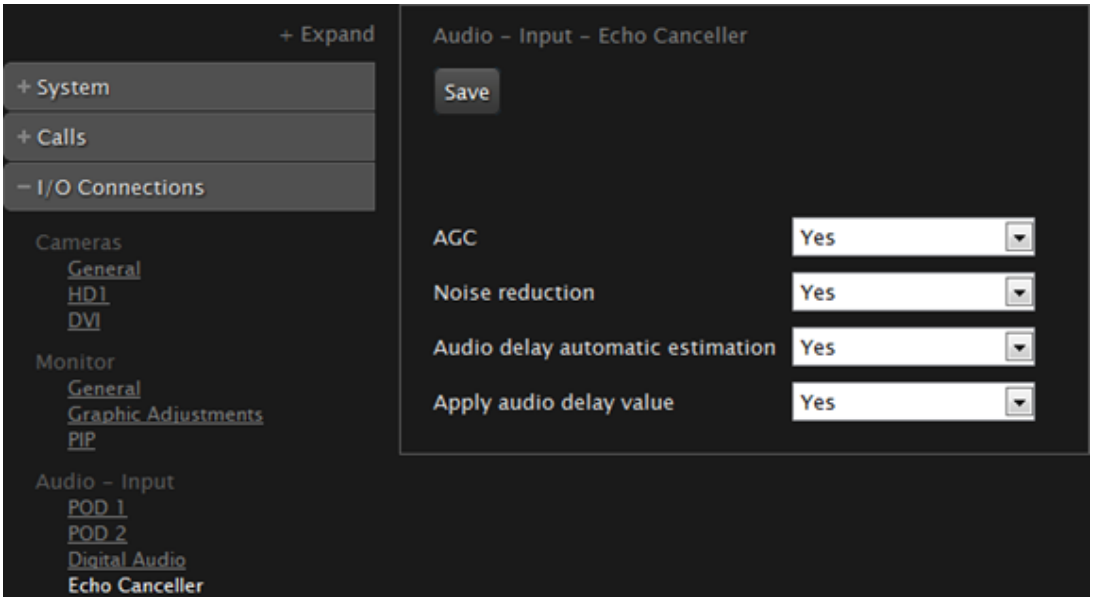
Enable echo cancellation as described in "Configuring the Microphone Pod" on page 74.

Procedure

Step 1 Access the echo canceller settings as follows:

- From the endpoint interface, select Configure > Advanced > I/O connections > Echo Canceller.
- From the web interface, select Administrator settings > I/O connections > Echo Canceller.

Figure 5-30 Cancelling echo from the web interface



Step 2 Set the fields as required.

Table 5-13 Configuring echo canceller related settings

Field Name	Description
AGC	Enables/disables Automatic Gain Control. The AGC reduces the volume if the audio is strong and raises when it is weak.
Noise reduction	Enables/disables reduction of ambient noise in a conference room (e.g.: coughing, paper rustling, etc.).
Audio delay automatic estimation	An HDMI monitor might insert delay in the audio, causing an echo. If you set this field to Yes, the XT Codec Unit improves its echo canceller performance automatically. We recommend this setting when you connect a new monitor to the XT Codec Unit. If you set this field to No, you can generate the audio delay manually and train the echo canceller to use the resulting audio for better performance.
Audio delay	Enables/disables the use of the audio delay value calculated when activating audio delay automatic estimation.

Step 3 In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Configuring Audio Outputs

The SCOPIA XT Series allows you to combine audio from various inputs and route it to available audio outputs. The possible combination of inputs and outputs forms a matrix, which is depicted in the SCOPIA XT Series system menus (Figure 5-31 on page 80).

The audio inputs to the system are:

- Microphone pods
- Analog audio input
- Remote audio coming from other participants in the videoconference

Note The audio from the analog inputs and microphones can be mixed and echo-cancelled.

These inputs can be mixed and routed to one or more of the following audio outputs:

- Monitor speakers or other device connected to the HD1 port with an HDMI cable;
- The analog output or the analog/optical port connected to a speaker or a device like a recorder.

A typical audio configuration, depicted in Figure 5-31 on page 80, would be:

- Route the remote audio to the speakers of one of the monitors (HD1), so you can hear the other conference participants.

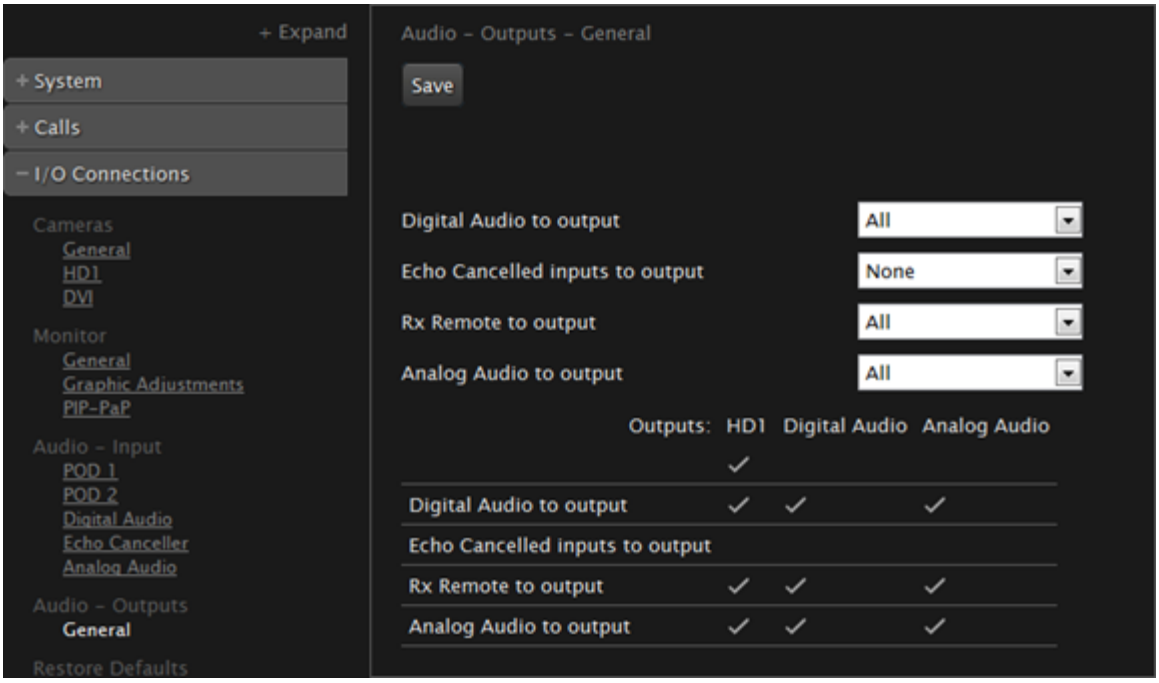
- You would not normally route the local microphone to a speaker. You can hear your own voices in the room, so normally you would not need to route the microphones to speakers. This will avoid feedback loops.
- If you are showing a presentation on your computer and it includes sound, route the sound of the computer to the analog input connector.

Procedure

Step 1 Access the audio output settings as follows:

- From the endpoint interface, select Configure > Advanced > I/O connections > Audio - Outputs > General.
- From the web interface, select Administrator settings > I/O connections > Audio - Outputs > General.

Figure 5-31 Defining the routing of the audio outputs from the web interface



Step 2 Set the fields as required.

Table 5-14 Configuring audio output settings

Field Name	Description
Digital Audio to output	If enabled, it routes the digital audio input port to one or more of the system's audio output channels: HD1, digital audio and digital analog or all of the above.
Echo Cancelled inputs to output	If enabled, sends the echo cancelled input from the microphones to one of the system's audio output channels: HD1, digital audio or analog output. This setting is disabled by default, to avoid echo effects and feedback loops when a monitor speaker is used.
Rx remote to output	If enabled, sends the remote audio of other conference participants to one or more of the system's audio output channels: HD1, digital audio or analog output.
Analog to output	If enabled, it routes the analog input port to one or more of the system's audio output channels: HD1, digital audio or analog output.

Step 3 In the web interface, select Save.

Note In the endpoint, the changes are saved automatically.

Configuring Network Settings

Part of the initial configuration is ensuring the network is properly set up. The settings are detailed in these sections:

- Configuring GLAN Use ..... page 81
- Configuring Gatekeeper Use ..... page 90
- Configuring SIP Server Use ..... page 93
- Configuring SCOPIA XT Series Endpoints to use an LDAP Directory ..... page 95

Configuring GLAN Use

You can configure GLAN use for SCOPIA XT Series.

Before you begin to configure GLAN use, you must prepare your network for video conferencing. Consult your network administrator for more information.

These sections describe step-by-step procedures to configure settings for GLAN use:

- Configuring IP Addresses ..... page 82
- Configuring Network Connectivity ..... page 84
- Enabling NAT and Firewall Traversal with SCOPIA XT Series ..... page 86
- Configuring Quality of Service (QoS) ..... page 88

Configuring IP Addresses

The system supports IPv4 and IPv6 modes for placing calls. There is no IPv6-only mode.

You can configure the IPv4 address manually or automatically.

The system is capable of detecting IP/MAC addresses conflicts in a network. The conflict occurs with static IP addresses if administrators have inadvertently attributed the same IP addresses to devices or with dynamic IP addresses due to a DHCP server problem.

The ⚠ icon appears in the system status bar when there is an IP address or network connection error, such as:

- Conflict with static IP addresses
- No valid IP address is assigned to the system on GLAN1 or GLAN2
- No cable is detected

For information about the error, select Configure > System status from the Main menu. When the system no longer detects a conflict in the network, the icons no longer appear.

HTTP, SNMP, FTP management occur in IPv4 only, even if you set the system to support dual mode.

Media streams in the same conference can be a mixture of IPv4 and IPv6.

Procedure

Step 1 Access the general network settings, as follows:

- From the web interface, select Administrator Settings > Networks > Preferences > General.
- From the endpoint, select Configure > Advanced > Network > Preferences.

Figure 5-32 Enabling IPv6 mode

Configuring from the Endpoint — Configuring from the Web Interface

Step 2 Set the Use IPv6 field to enable or disable IPv6 support.

Step 3 In the web interface, select Save.

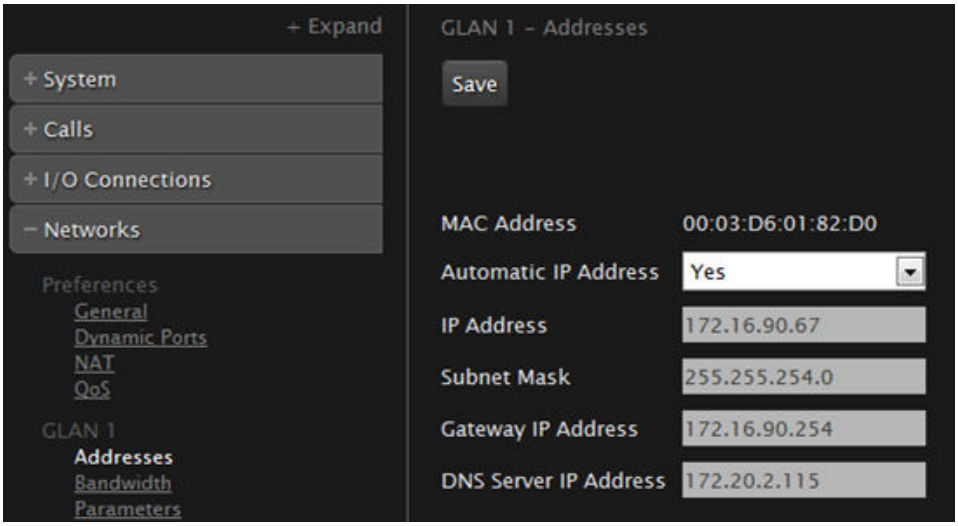
Note From the endpoint, your changes are saved automatically.

Step 4 Access the IP address settings, as follows:

- From the endpoint, select the back key on the XT Remote Control Unit, and select either GLAN 1 or GLAN 2.
- From the web interface, select Addresses under GLAN 1 or GLAN 2.

Note GLAN2 is available in selected models only.

Figure 5-33 Configuring IP addresses from the web interface



Step 5 Set the fields as described in Table 5-15 on page 84.

Table 5-15 Configuring IP addresses

Field Name	Description
MAC address	This setting cannot be changed.
Automatic IP address	Set to Yes (default) if the system gets its IP address automatically. Set to No if you must set up a public IP address in the IP address field. The other fields in this page become programmable.
IP address	If the system gets its IP address automatically, indicates the IP address assigned to the system. Otherwise enter the system static IP address here.
Subnet mask	If the system gets its IP address automatically, indicates the subnet mask assigned to the system. If you entered the system's IP address manually, type the subnet mask.
Gateway IP address	If the system gets its IP address automatically, this field indicates the gateway IP address assigned to the system. If you entered the system's IP address manually, type the gateway IP address.
DNS server IP address	If the system gets its IP address automatically, this field indicates the DNS server IP address assigned to the system. If you entered the system's IP address manually, type the DNS server IP address.

Step 6 In the web interface, select Save.

Note From the endpoint, your changes are saved automatically.

Configuring Network Connectivity

If necessary you can configure the GLAN1 and GLAN2 ports.

Carefully match these settings with the equivalent settings in the network to avoid connectivity issues.

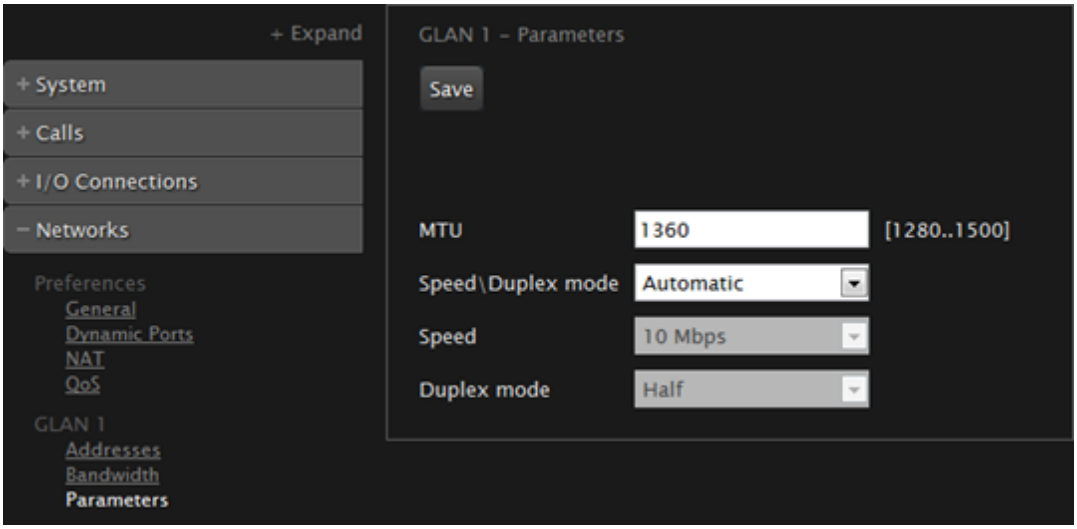
Procedure

Step 1 Access the network settings as follows:

- From the web interface, select Administrator Settings > Networks.
- From the endpoint, select Configure > Advanced > Networks.

Step 2 Select Parameters under GLAN.

Figure 5-34 Configuring the GLAN parameters from the web interface



Step 3 Set the field as described in Table 5-16 on page 86.

Table 5-16 Configuring network connectivity

Field Name	Setting
MTU	Sets the maximum size of each IP packet the XT Codec Unit can send to the network. If the system or the remote endpoint transmits IP packets larger than the configured MTU size, they are dropped or fragmented. To avoid packet loss or fragmentation, decrease MTU. If packets are smaller than the configured MTU size, increase MTU. The maximum and minimum values you enter in this field depend on the mode selected for placing calls: IPv4 or IPv6. (These are configured in "Configuring IP Addresses" on page 82. Both for IPv4 and IPv6 MTU size is set by default to 1360 octets. You can set the MTU size to these ranges: • The minimum allowed value for IPv4 is 576 octets. • The minimum allowed value or IPv6 is 1280 octets. • The maximum allowed value for both is 1500 octets.
Speed/Duplex mode	Set the speed and transition mode as follows: • Automatic: The XT Codec Unit selects the Ethernet speed and transmission mode. We recommend this default mode. • Auto - up to 100/Full, Auto - up to 100/Half, Auto - up to 10/Full, Auto - up to 10/Half: If necessary for your network requirements, select one of these semi-automatic modes. The XT Codec Unit selects the Ethernet speed and transmission mode according to the specified values. • Manual: You must configure speed and transmission mode and know the network and remote endpoints requirements.
Speed	Select the suitable Ethernet speed: 10, 100, or 1000 MBPs for GLAN.
Duplex mode	Select the duplex or half-duplex mode of data transmission.

Step 4 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Enabling NAT and Firewall Traversal with SCOPIA XT Series

SCOPIA XT Series fully supports NAT and firewall traversal, enabling you to place the unit behind a NAT router or firewall and connect with other endpoints seamlessly.

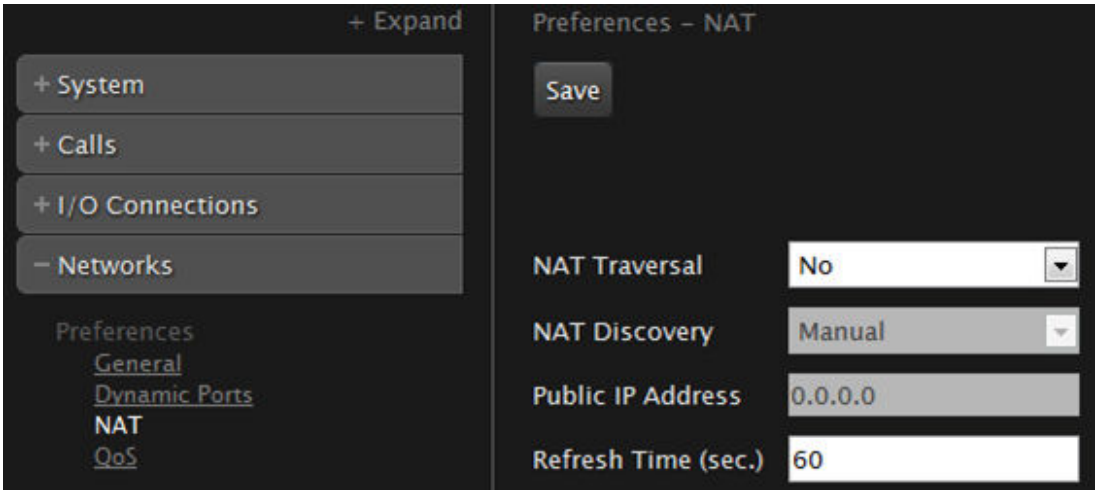
Perform this procedure to enable your SCOPIA XT Series to traverse NAT and firewall. For explanation about NAT and firewall approaches as well as examples of deployments, refer to this section "Planning NAT and Firewall Traversal with SCOPIA XT Series" on page 11.

Procedure

Step 1 Access the network settings as follows:

- From the web interface, select Administrator Settings > Networks > Preferences > NAT.
- From the endpoint, select Configure > Advanced > Networks > Preferences > NAT.

Figure 5-35 Configuring NAT traversal settings from the web interface



Step 2 Set the fields as described in Table 5-17 on page 87.

Table 5-17 Configuring NAT-related settings

Field Name	Description
NAT Traversal	Set to Yes to allow the system to be located behind a firewall/NAT. Set to No if the system is not located behind a firewall/NAT, but has a public IP address.
NAT Discovery	Manual method of setting the system's firewall/NAT public IP address. Enter the Public IP address for that setting.
	HTTP discovery - This method uses a RADVISION HTTP server to discover the presence of a firewall/NAT and its public IP address (requires the endpoint to have internet access).
	STUN discovery - This method uses a public STUN server to discover the presence of a firewall/NAT and its public IP address. This is the suggested method.
Public IP address	Firewall public IP address. The field is enabled if NAT Traversal is set to Yes.
Refresh time (sec)	Sets the opening time, in seconds of the pinhole inside the firewall. Also used by H.460 as TTL (Time To Live) of registration requests.

Note Set the ports in accordance with the settings detailed in "Configuring the TCP or UDP Port Range on the SCOPIA XT Series" on page 18.

Step 3 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Configuring Quality of Service (QoS)

Quality of Service determines how your network handles IP packets sent to your system during a video conference.

Bandwidth and video quality settings also contribute to call quality. If you experience problems with call quality, refer to the *Troubleshooting chapter of the Administrator Guide for SCOPIA XT Series*.

Before you begin

Consult with your network administrator for more information about configuring Quality of Service.

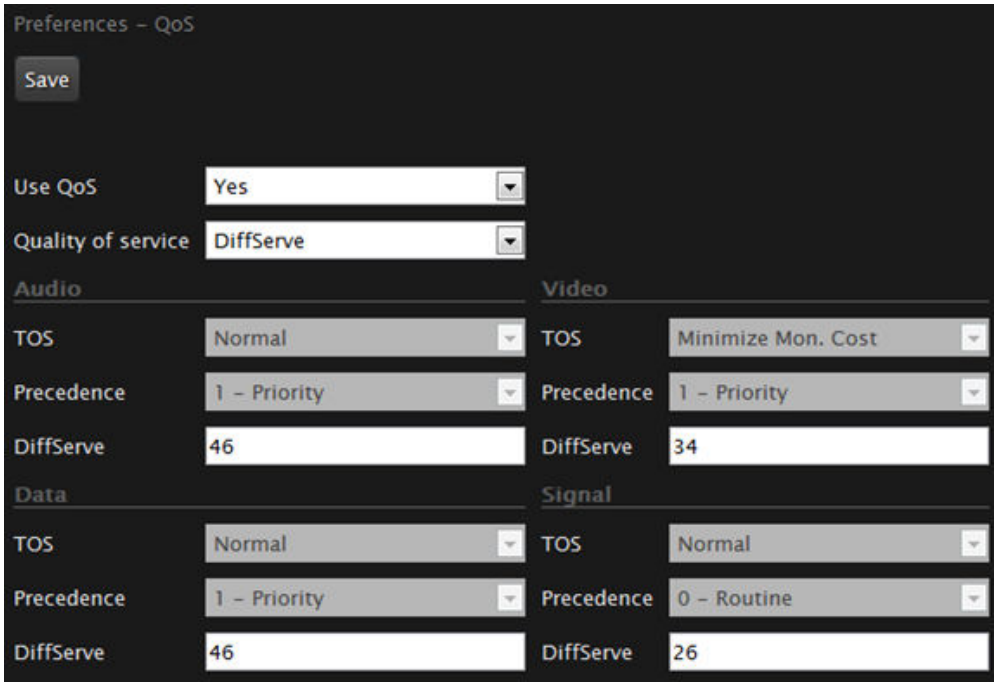
Note For detailed information on QoS based on TOS, refer to RFC-1439.

Procedure

Step 1 Access the network settings as follows:

- From the web interface, select Administrator Settings > Networks > Preferences > QoS.
- From the endpoint, select Configure > Advanced > Networks > Preferences > QoS.

Figure 5-36 Configuring QoS settings



Step 2 Set the fields as described in Table 5-18 on page 89.

Table 5-18 Configuring QoS settings

Field Name	Description
Use QoS	Enable/Disable QoS. If you set Use QoS to Yes, you will provide different priority to different data stream, or guarantee a certain level of performance to a data stream. In particular, you may choose between Precedence/TOS and Differentiated Service.
Quality of service	Precedence/TOS - For each stream (Audio, Video, Data, Signal) sent to the system, you may define the Type Of Services and a Precedence to fit network capabilities. Precedence is priority. A higher number sets a higher priority. Used mainly to class router packets as high priority.
	Differentiated Service - For each stream (Audio, Video, Data, Signal) sent to the system, you may define a priority level to fit network capabilities.

Step 3 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Configuring Gatekeeper Use

Gatekeepers offer video users the ability to contact H.323 endpoints by entering an alias, rather than having to remember each endpoint's IP address. For example, you can dial "1234" or "joesmith" and the gatekeeper routes the call correctly.

To do this, the gatekeeper must register all endpoints to maintain the mapping list of aliases and endpoints to successfully route calls. It also registers gateways to ensure that a call can be routed to a non-H.323 entity, since gateways form the bridge from H.323 to other protocols, such as ISDN.

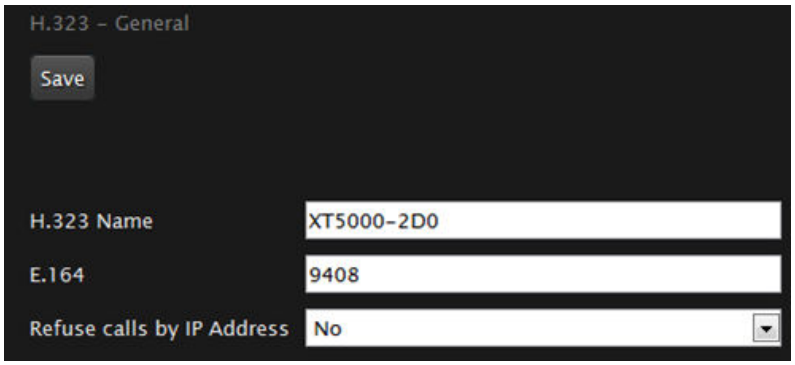
When registering with a gatekeeper like SCOPIA ECS Gatekeeper, the endpoint sends its IP and aliases. Registration occurs before any calls are attempted and may occur periodically, or once, such as during endpoint power-up.

Procedure

Step 1 Access the gatekeeper settings as follows:

- From the web interface, select Administrator Settings > Protocols > H.323 > General.
- From the endpoint, select Configure > Advanced > Protocols > H.323 > General.

Figure 5-37 Configuring H.323 settings from the web interface



Step 2 Set the fields as described in Table 5-19 on page 90.

Table 5-19 Configuring H.323 settings

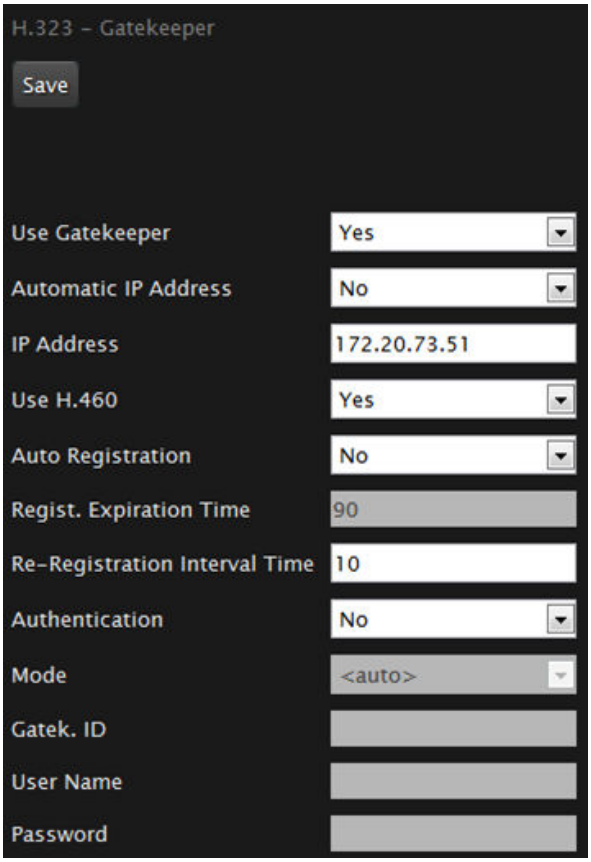
Field Name	Description
H.323 Name	The H.323 name or ID (alias) used to register the unit with the gatekeeper.
E.164	The E.164 number used to register the unit with the gatekeeper.
Refuse calls by IP Address	Select Yes to allow only endpoints registered to the gatekeeper to call your endpoint.

Step 3 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Step 4 Select Gatekeeper under H.323.

Figure 5-38 Configuring the Gatekeeper settings from the web interface



Step 5 Set the fields as described in Table 5-20 on page 92.

Table 5-20 Configuring the gatekeeper

Field Name	Description
Use gatekeeper	Enables/disables the use of a gatekeeper. If No is selected, all the other fields are greyed. If Yes is selected, the XT Codec Unit can use the gatekeeper's services.
Automatic IP address	Automatic gatekeeper discovery. The XT Codec Unit searches for an available gatekeeper.
IP address	Enter the IP address of the gatekeeper, if you do not use Automatic IP address.
Use H.460	If set to Yes, the system uses H.460 firewall traversal features.
Auto registration	Automatic registration is used to discover whether the registration state to the gatekeeper has been lost. Loosing registration state could be very annoying as a gatekeeper call will not reach the XT Codec Unit and the latter wouldn't be aware that it is unreachable. This option must be enabled only if the gatekeeper sends the RAS Information Request messages (IRQ) at periodic interval (e.g.: every 60 seconds). The XT Codec Unit replies with the RAS Information Request Response messages (IRR), as mandated by H.225.0.
Registration expiration time	If the XT Codec Unit does not receive an IRQ for a time longer than the Registration expiration time, it presumes that the registration state in the gatekeeper has been lost (due to line problem or gatekeeper crash), and repeats the registration procedure.
Re-registration interval time	Therefore the XT Codec Unit starts a new registration procedure, repeating it upon failure at the Re-Registration Interval Time. This value is used also for normal registration when it fails. This field is useful if you do not want to use the normal RAS lightweight registration procedure. This option is normally off and must be enabled only it the XT Codec Unit administrator is sure that the gatekeeper sends the IRQ messages. If not, the XT Codec Unit unregisters and registers at every Registration expiration Time.
Authentication	If Authentication is enabled, the related fields must be defined. If it is not enabled, the four text fields (Mode, Gatek. ID, User name, Password) are greyed.
Mode	Automatic, MD5, H.235 annex D - If set to Automatic, the XT Codec Unit selects the best mode according to the gatekeeper.
Gatek. ID	Gatekeeper H.323 identifier. Ask the network administrator.
User name	The network administrator must pre-configure the User name in the gatekeeper.
Password	The network administrator must pre-configure the Password in the gatekeeper.

Step 6 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Configuring SIP Server Use

The SCOPIA XT Series can be configured to function in a SIP environment, where aliases are managed by SIP servers rather than gatekeepers. In a SIP environment, a user can contact an endpoint by entering its alias, rather than having to remember the endpoint's IP address. For example, you can dial "1234" or "joesmith" and the SIP server routes the call correctly. To do this, the SIP server must register all endpoints to maintain the mapping list of aliases and endpoints to successfully route calls.

The procedure in this section explains how to register your SCOPIA XT Series to the SIP Registrar and how to configure the SIP Proxy connection.

Before you begin

Before you begin configuration, verify that you have the following information about your SIP environment:

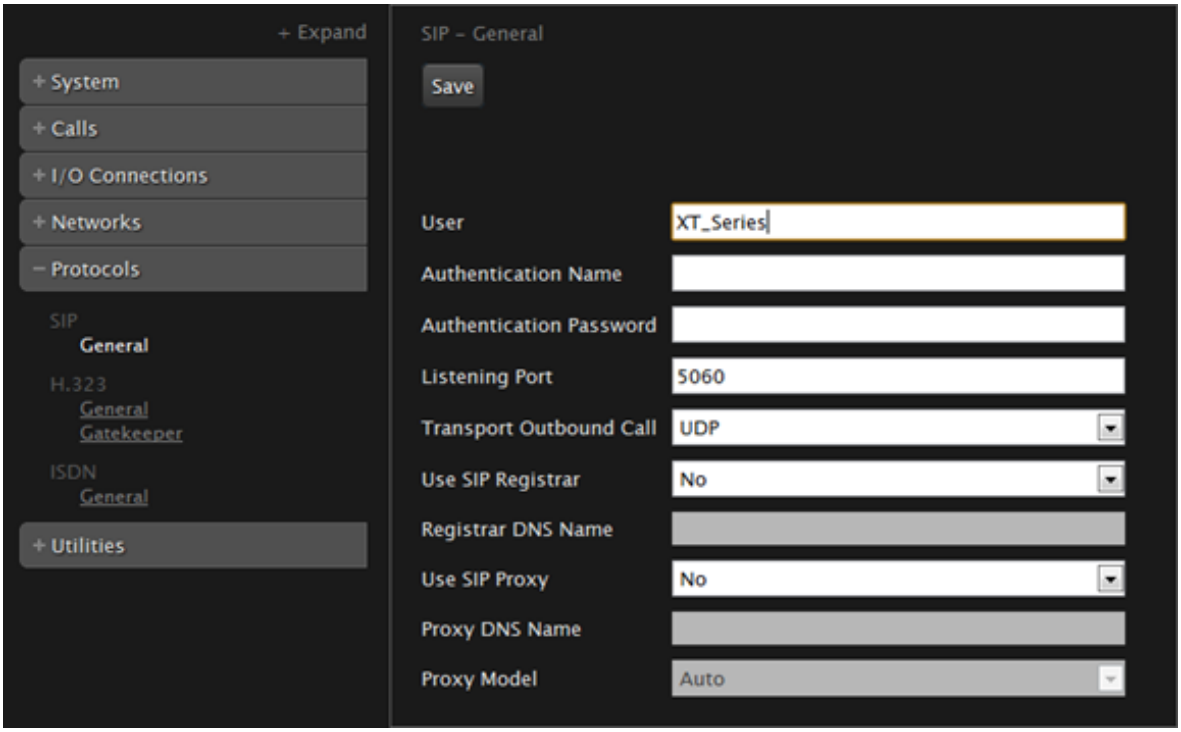
- The DNS names or IP addresses of the SIP Proxy and SIP Registrar.
- The transport protocol and ports used in your SIP environment.
- (Optional) The model of the SIP Proxy.
- For the SIP infrastructure that requires a SIP user authentication, credentials for authenticating SCOPIA XT Series at the SIP Proxy and SIP Registrar.

Procedure

Step 1 Access the SIP settings as follows:

- From the web interface, select Administrator Settings > Protocols > SIP > General.
- From the endpoint, select Configure > Advanced > Protocols > SIP > General.

Figure 5-39 Configuring SIP settings



Step 2 Configure parameters as described in Table 5-21 on page 95.

Table 5-21 Configuring SIP-related parameters

Parameter	Description
User	Enter the system user name (alias). The system is registered to the SIP Registrar under this name.
Authentication Name	If necessary, enter the name for authenticating the XT Series with the SIP Proxy server and SIP Registrar. It can be the same as the User parameter.
Authentication Password	If necessary, enter the password for authenticating your XT Series with the SIP Proxy server and SIP Registrar.
Listening Port	Enter the number of the port used by XT Series for receiving inbound SIP calls. By default, port 5060 is used.
Transport Outbound Call	Select the preferred transport protocol for outbound SIP calls: TCP or UDP.
Use SIP Registrar	Enable registering the system to the SIP Registrar by selecting Yes.
Registrar DNS Name	Enter the DNS name or IP address of the SIP Registrar.
Use SIP Proxy	Enable using the SIP Proxy by selecting Yes.
Proxy DNS Name	Enter the DNS name or IP address of the SIP Proxy.
Proxy Model	Select the model of the SIP Proxy server. Specifying the model can help to avoid potential interoperability issues. If the model is unknown or is not on the list, select Auto.

Step 3 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Configuring SCOPIA XT Series Endpoints to use an LDAP Directory

This procedure describes how to manage the contacts of your endpoint using any of a number of different types of LDAP servers.

LDAP servers are accessed using the H.350 protocol, which enhances the LDAP standard to include video endpoint information.

You can define up to 100 LDAP servers either from the endpoint itself or from the web interface. The LDAP servers visible from the Contacts page are only those labeled as Preferred. Select one of the preferred LDAP servers from the Server field in the contacts page to view its contacts (Figure 5-40 on page 96).

Figure 5-40 Viewing and editing contacts in Local LDAP server

You can define three types of LDAP servers:

- The local built-in LDAP server

  You can define only one local LDAP server. When selected, you can edit, create or delete the details of any contacts stored locally (Figure 5-40 on page 96). The local LDAP server has a password which can be changed if needed.

Note You cannot remove the local LDAP server.

- A remote XT Series's built-in LDAP server

  The contacts are read-only when browsing a remote XT Series's LDAP server. You can define more than one of these LDAP servers, where each requires only the IP address of the remote endpoint and its LDAP password.

- SCOPIA Management's built-in LDAP server

  The contacts of this server are read-only from the endpoint. You can define more than one such server, specifying each IP address, port, and its LDAP username and password. The resulting contact list is filtered to show only users registered to an endpoint.

Note If the SCOPIA Management LDAP server has a Root DN defined, you must specify the RootDN field when defining that LDAP server.

- A third-party LDAP server, such as Microsoft Active Directory

  The contacts of a third party LDAP are read-only from the endpoint. The LDAP tree must have the following specific structure and naming conventions:

  – The Root DN must be defined. For example, dc=company, dc=com.

  – All users (inetOrgPerson entities) must be located under an organizational unit (ou) in the LDAP tree. For example, ou=people.

  – All endpoints (commObject entities) must be listed under an organizational unit called h323Identity if they are to work with H.323, and SIPIdentity if they are to work as SIP endpoints.

    Since the XT Series works both as an H.323 and a SIP endpoint, all XT Series commObjects should be listed under both organizational units.

– Each endpoint is represented by a commObject with its commUniqueId. Each commObject contains the details of accessing this endpoint, and the user associated with it. Define the following fields:

Field	Value	Comments
objectClass	commObject	Use this exact value
objectClass	h323Identity	Use this exact value
commOwner	uid=<x>,ou=people,dc=company,dc=com	The user ID associated with this endpoint
h323IdentityEndpointType	Terminal	Use this exact value for H.323 endpoints only
h323IdentitytransportID	<ip address>	At least one of these fields must be defined for an H.323 endpoint.
h323IdentitytransportDigits	<E/164 dial number>	
h323IdentitytransportNumber	<H.323 alias>	
h323Identityh323-ID	<H.323 alias>	
SIPIdentitySIPURI	<URI address of SIP endpoint>	SIP endpoints only.

– Each user (inetOrgPerson entity) must have its commURI field pointing to the user's endpoint (commObject ID).

  For example, `ldap://123.456.789.012/ou=h323identity,dc=company,dc=com??sub?(commUniqueId=6) SCOPIA XT5000` where `commUniqueId` refers to the commObject ID

A centralized solution like SCOPIA Management enables synchronizing the same list of contacts across all the endpoints in your organization, and has other benefits like remote centralized upgrading and backing up of all endpoints in your video network. In deployments without SCOPIA Management, you can use the local built-in LDAP server that comes within every XT Series unit.

Note You can configure the XT Series to use SCOPIA Management as the LDAP directory also from the SCOPIA Management administrator portal (for details, see the *Administrator Guide for SCOPIA Management*).

Before you begin

If you are using SCOPIA Management as the LDAP directory, associate LDAP contacts to video endpoints; otherwise these contacts are not displayed on the XT Series.

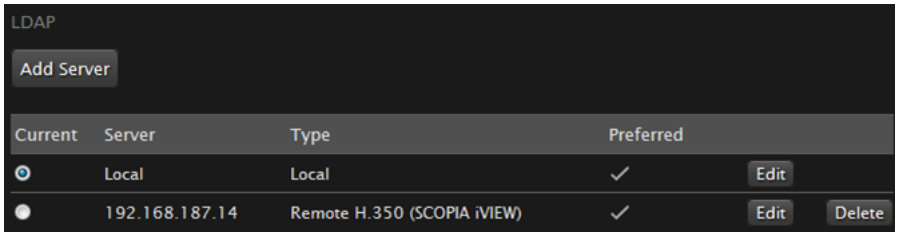
Each LDAP contact on the XT Series can only be mapped to a maximum of ten video endpoints.

Procedure

Step 1 Access the LDAP settings, as follows:

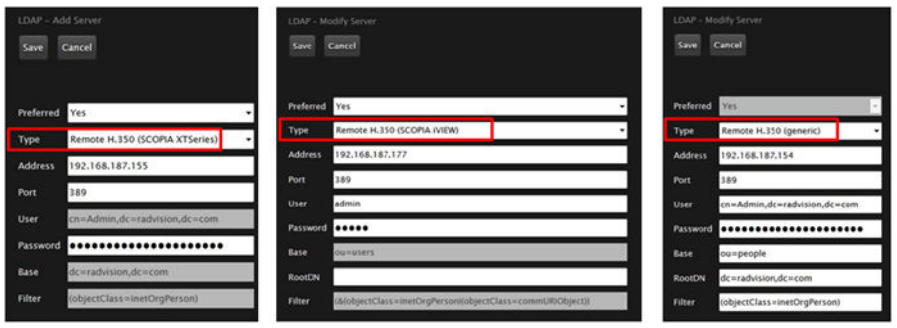
- From the endpoint, select Configure > Advanced > System > LDAP.
- From the web interface, select Administrator Settings > System > LDAP.

Figure 5-41 Configuring LDAP settings from the web interface



Step 2 Select Add Server.

Figure 5-42 Adding each type of LDAP server from the web interface



Step 3 Configure the LDAP server settings as described in Table 2.

Table 5-22 Configuring LDAP server settings

Field Name	Description
Preferred	To view contacts from this LDAP server from the Contacts page, select Yes. Users can then select one of these preferred LDAP servers to view the contacts in that LDAP database.
Type	Define the type of LDAP server you are configuring, as follows: • Local Server: The endpoint's built-in LDAP server. Users can add, modify and delete contacts, as well as call and browse contacts in the phone book. • Remote H.350 (XT Series): An external XT Series's built-in LDAP server. Users cannot make any changes to the contact list for this endpoint. • Remote H.350 (SCOPIA Management): SCOPIA Management's built-in LDAP server. Users cannot make any changes to the contact list for this endpoint. • Remote H.350 (generic): A third-party LDAP server, such as Microsoft Active Directory. Users cannot make any changes to the contact list for this endpoint.
Address	Enter the LDAP server address. If you are using SCOPIA Management as your LDAP directory, enter SCOPIA Management's IP address.
Port	Enter the port used to connect to the LDAP server. The default port is 389.
User Password	Enter the username and password required to access the LDAP server. The format of the username is in the form of a Distinguished Name (DN). Some standard components of DN are: domain controller (dc), organizational unit (ou), common name (cn), country (c), state or province (st), locality (l), organization (o). The login to third party LDAP servers is via a Simple Bind LDAP v3 operation. **Note** When using the endpoint's built-in LDAP server, you can modify the password here. When using an external XT Series as the LDAP server, this value cannot be modified, since the LDAP user of a XT Series is predefined.
Base	The root of the LDAP tree where the contacts' records are defined. Use this field for third party LDAP server connections to define the node under which all the inetOrgPerson entities are located. For example ou=people. This value is predefined when the LDAP server is an XT Series or SCOPIA Management, and cannot be modified.
Root DN	For third party LDAP servers, enter the mandatory H.350 Root DN. For a SCOPIA Management LDAP directory, if you defined the Root DN in SCOPIA Management, enter it here. For details, see the *Administrator Guide for SCOPIA Management*. For XT Series LDAPs, this field is not displayed.

Field Name	Description
Filter	The filter applied to the LDAP tree, so you view only the relevant contacts. This value is predefined when the LDAP server is an XT Series or SCOPIA Management.

Step 4 In the web interface, select Save.

Note In the endpoint, changes are saved automatically.

Configuring Call Properties

When configuring the settings the system will use for in-call transmission, take into account the remote terminal capabilities.

- Configuring Call Settings ..... page 100
- Configuring Audio Compatibility with Older Systems ..... page 103
- Configuring Video Compatibility with Older Systems ..... page 104

Configuring Call Settings

This procedure shows how to configure the following system settings according to your network requirements, to allow incoming and outgoing calls:

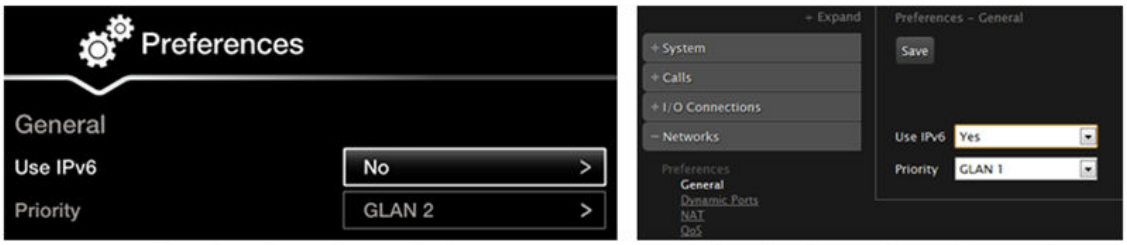
- Network's preferred GLAN
- Call settings, such as defining calls as audio-only, or specifying the call rate
- IP settings, such as determining whether the XT Codec Unit checks audio and video data packets

Procedure

Step 1 Access the network priority settings as follows:

- From the web interface, select Administrator Settings > Networks > Preferences > General.
- From the endpoint, select Configure > Advanced > Networks > Preferences > General.

Figure 5-43 Configuring the Priority setting from the web interface



Configuring from the Endpoint Configuring from the Web Interface

Step 2 Set the Priority setting to the GLAN port that the preferred network uses. This field specifies in which order the system places outgoing calls.

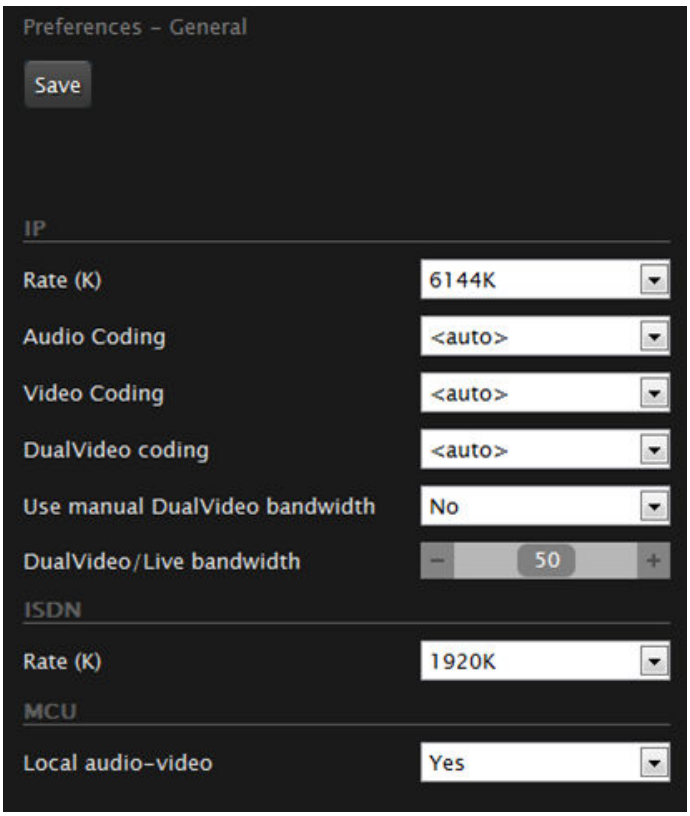
Step 3 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Step 4 Access the call settings as follows:

- From the web interface, select Administrator Settings > Calls > Preferences > General.
- From the endpoint, select Configure > Advanced > Calls > Preferences > General.

Figure 5-44 Configuring general call settings



Step 5 Set the fields as described in Table 5-24 on page 103.

Table 5-23 Configuring general call settings

Field Name	Description
<auto>	(Recommended) This is the default and setting. It indicates that the system tries to choose the settings that best suit the local situation.
Rate K (IP)	Sets the maximum call rate that the system uses for all incoming or outgoing calls.
Audio Coding (IP)	Sets the preferred Audio Coding that the system tries to use for all incoming or outgoing calls, if the remote system supports the same Audio Coding.
Video Coding (IP)	Sets the preferred Video Coding that the system tries to use for all incoming or outgoing calls, if the remote system supports the same Video Coding.
Rate K (ISDN)	Sets the maximum call rate that the system uses for all incoming or outgoing calls in ISDN connectivity.
DualVideoCoding (IP)	Sets the resolution for H.264 content video.
Use manual DualVideo bandwidth (IP)	If set to Yes allows to change bandwidth used for content and live video (DualVideo/Live bandwidth).
DualVideo/Live bandwidth (IP)	Sets more bandwidth on Live Video or Content.

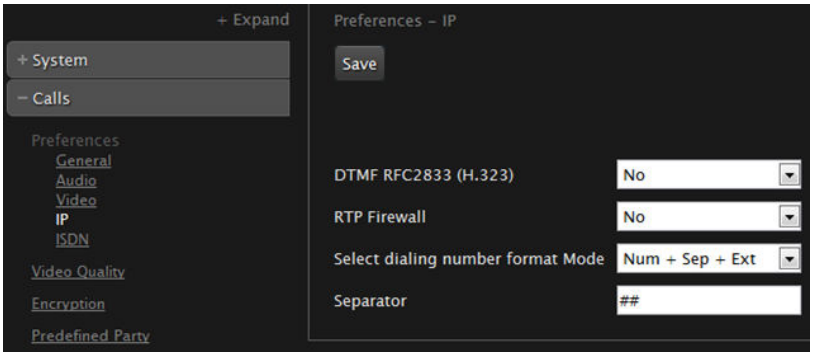
Step 6 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Step 7 Access the IP settings as follows:

- From the web interface, select Administrator Settings > Calls > Preferences > IP.
- From the endpoint interface, select Configure > Advanced > Calls > Preferences > IP.

Figure 5-45 Configuring the IP settings from the web interface



Step 8 Set the fields as described in Table 5-24 on page 103.

Table 5-24 Configuring the IP-related call settings

Field Name	Description
DTMF RFC2833 (H.323)	DTMF describes a method to send DTMF inside an audio stream. This method is normally used in SIP protocol but is uncommon in H.323. If set to Yes, the H.323 application in the XT Codec Unit can use DTMF transmission. Verify the remote endpoint supports RFC2833 before enabling this field.
RTP Firewall	If set to Yes, the XT Codec Unit checks the audio and video packets it receives and rejects those which are incoherent for the current call.
Select dialing number format mode	If your XT Codec Unit is not registered with an H.323 gatekeeper, you can still place a call to an endpoint registered with a gatekeeper. Check which format of dialing the gatekeeper accepts and configure it in this field: <gatekeeper number><separator> <extension of the called endpoint>, or <extension> <separator><number>. The default syntax is <number><separator><extension>.
Separator	Select the field separator accepted by the gatekeeper. The default separator is ##.

Step 9 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Configuring Audio Compatibility with Older Systems

Some older endpoint may be not fully compliant with more recent standard, and thus not able to recognize and manage recent audio protocols such as Audio G.719 (full band). As a consequence the audio on these endpoints may not work.

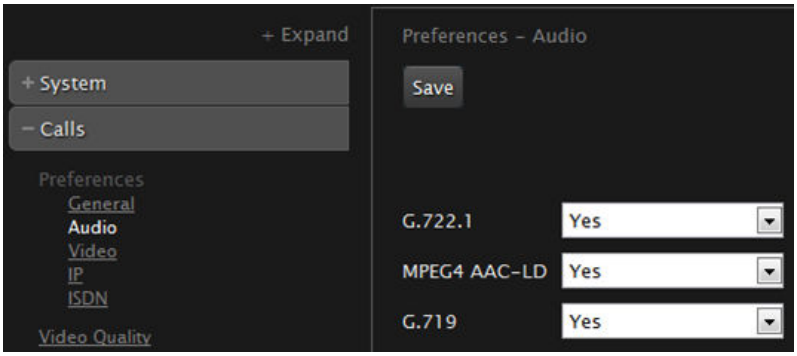
The endpoint administrator should disable specific audio codec if any compliance issue with older endpoints arises.

Procedure

Step 1 Access the audio settings as follows:

- From the web interface, select Administrator Settings > Calls > Preferences > Audio.
- From the endpoint, select Configure > Advanced > Calls > Preferences > Audio.

Figure 5-46 Configuring audio settings from the web interface



Step 2 Disable specific audio codecs by selecting No from the lists.

Step 3 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Configuring Video Compatibility with Older Systems

Some older endpoint may be not fully compliant with more recent standard, and thus not able to recognize and manage recent video protocols such as HD 1080 (full HD) or Dual Video SIP (BFCP). As a consequence the video on these endpoints may not work.

The endpoint administrator must disable specific video codec if any compliance issue with older endpoints arises.

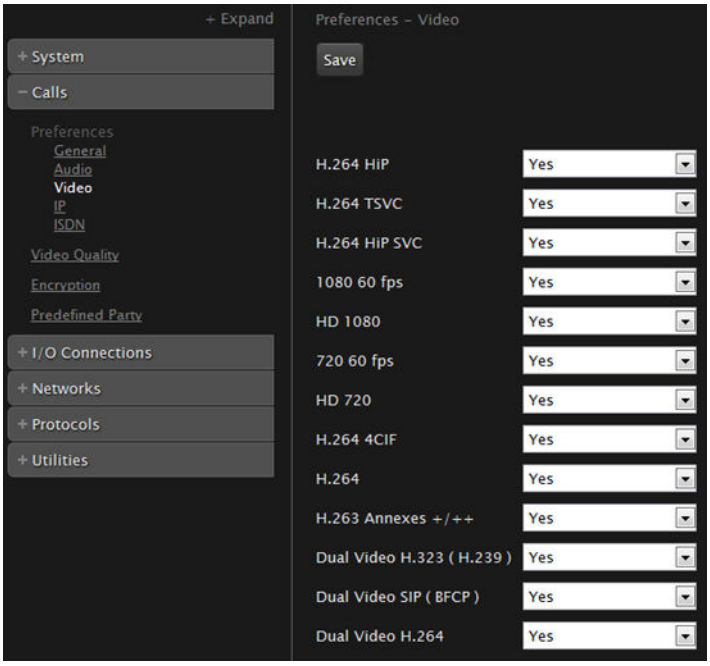
Procedure

Step 1 Access the video settings as follows:

- From the web interface, select Administrator Settings > Calls > Preferences > Video.
- From the endpoint, select Configure > Advanced > Calls > Preferences > Video.

Step 2 Select Video under Preferences.

Figure 5-47 Configuring video settings from the web interface (example)



Step 3 Disable specific video codecs by selecting No from the lists.

Note The video codecs available depends on your XT Series model.

Step 4 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

Securing Calls

The system can manage secure videoconference sessions via encrypted connections, in both point-to-point and multipoint sessions.

You can configure settings for securing calls either using your SCOPIA XT Series interface or remotely, using the SCOPIA XT Series web interface.

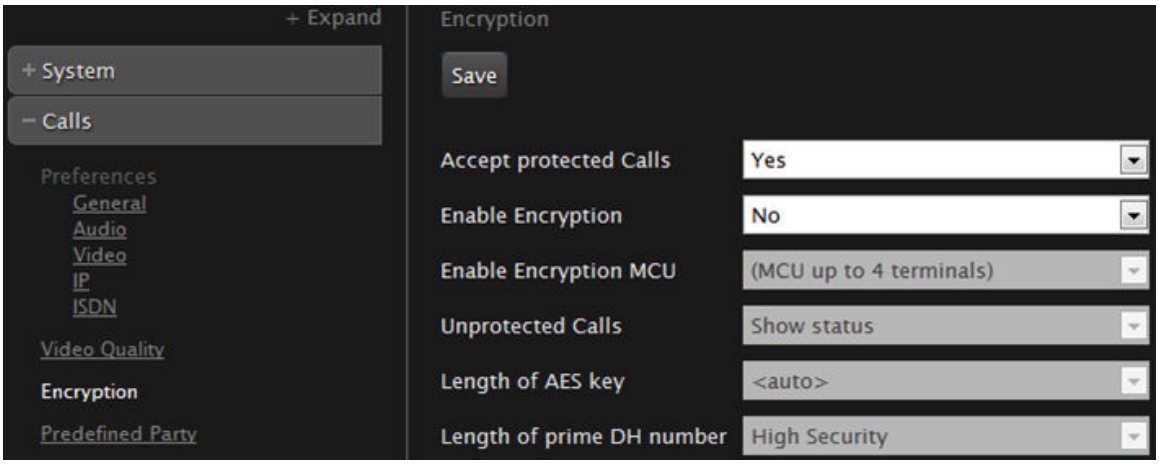
Note Using encryption is subject to local regulation, in some countries it is restricted or limited for usage. Please consult your local reseller for further details.

Procedure

Step 1 Access the security settings as follows:

- From the web interface, select Administrator Settings > Calls > Encryption.
- From the endpoint, select Configure > Advanced > Calls > Encryption.

Figure 5-48 Encrypting calls from the web interface



Step 2 Set the fields as described in Table 5-25 on page 107.

Table 5-25 Configuring settings for securing calls

Field Name	Description
Accept protected calls	If encryption is set to No, and the user receives an encrypted call, the system can still accept the encrypted incoming call. In this case, the established call is encrypted.
Enable encryption	If encryption is set to Yes, the system will use encryption. This setting allows to configure a number of fields in the page.
Unprotected calls	Sets the policy the system will apply if the remote terminal does not support protected calls. • Show Status – If selected, the system will display a warning message and an open padlock symbol will be displayed on the status bar. • Disconnect - If selected, the system will automatically disconnect the call. • Ask Confirmation - If selected, the system will ask you to confirm that you want to establish an unprotected call. • Inform - If selected, the system will display a warning message.
Length of AES key	This value is always fixed at 128 bit, which is the standard H.323 value.
Length of Prime DH Number	This value is always fixed at 1024 bit, which is the standard H.323 value.

Step 3 In the web interface, select Save.

Note In the endpoint, your changes are saved automatically.

About RADVISION

RADVISION (NASDAQ: RVSN) is the industry's leading provider of market-proven products and technologies for unified visual communications over IP and 3G networks. With its complete set of standards based video networking infrastructure and developer toolkits for voice, video, data and wireless communications, RADVISION is driving the unified communications evolution by combining the power of video, voice, data and wireless – for high definition video conferencing systems, innovative converged mobile services, and highly scalable video-enabled desktop platforms on IP, 3G and emerging next generation networks. For more information about RADVISION, visit www.radvision.com

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